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AUGUST 1970

COTTON Situation

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PROCUREMENT SECTION
CURRENT SERIAL RECORDS



Cotton Situation at a Glance

Item	Unit	1969			1970 1/		
		May	June	July	May	June	July
GENERAL ECONOMY							
BLS wholesale price indices							
All commodities	1957-59=100	112.8	113.2	113.3	116.8	117.0	117.7
Cotton broadwoven goods	do.	103.7	103.6	104.7	106.2	106.5	106.4
Indices of industrial production 2/							
Overall including utilities	do.	172.5	173.7	174.6	169.1	168.8	169.2
Textiles, apparel and leather products	do.	146.3	146.0	145.4	138.2	136.4	136.0
Personal income payments 2/	Bil. dol.	740.9	746.2	752.7	799.7	798.2	801.8
Retail apparel sales 2/	Mil. dol.	1,665	1,660	1,700	1,684	1,685	
COTTON							
Broadwoven goods industry							
Average gross hourly earnings	Dollars	2.27	2.27	2.36	2.42	2.41	2.41
Ratio of stocks to unfilled orders 2/	Percent	40	39	38	41	37	
Consumption of all kinds by mills							
Total (4-week period except as noted)	1,000 bales	656	644	3/649	610	3/730	536
Cumulative since August 1	do.	6,922	7,566	8,215	6,703	7,433	7,969
Daily rate							
Seasonally adjusted 4/	do.	31.7	31.7	31.6	29.5	28.7	32.7
Unadjusted	do.	32.8	32.2	26.0	30.5	29.2	26.8
Spindles in place on cotton system 5/	Thousands	20,505	20,423	20,350	19,856	19,866	19,890
Consuming 100 percent cotton	do.	13,065	12,955	12,858	11,935	11,938	11,902
Consuming blends	do.	4,856	4,877	4,894	5,094	5,040	5,033
Mill margin data, expanded series							
Average gray goods price	Cents	68.20	68.20	68.31	68.58	68.56	68.46
Average cotton price	do.	25.47	25.39	25.29	25.17	25.23	25.35
Margin	do.	42.73	42.81	43.02	43.41	43.33	43.11
Prices of American upland							
Received by farmers (mid-month)	do.	20.12	21.32	21.65	22.11	22.31	22.65
Parity (effective following month)	do.	47.80	47.92	47.80	48.81	49.06	48.94
Farm as percentage of parity	Percent	42	44	45	45	45	46
Stocks							
Mill, end of month	1,000 bales	1,816	1,744	1,638	1,552	1,473	1,415
Public storage and compresses	do.	5,948	5,223	4,483	5,369	4,627	3,960
Trade							
Raw cotton							
Exports							
Total	do.	363	194	278	299	269	186
Cumulative since August 1	do.	2,260	2,453	2,731	2,313	2,582	2,768
Imports							
Total	Bales	6,451	3,283	824	1,499	1,595	
Cumulative since August 1	do.	63,475	66,758	67,582	48,443	50,038	
Textile manufactures (equivalent raw cotton)							
Exports							
Total	1,000 bales	49.6	40.6	36.6	36.2	33.0	
Cumulative since August 1	do.	359.6	400.2	436.8	415.4	448.4	
Imports							
Total	do.	91.5	104.8	91.8	87.1	80.3	
Cumulative since August 1	do.	822.0	926.8	1,018.5	838.3	918.6	
MAN MADE FIBERS							
Consumption, daily rate by mills 6/							
Non-cellulosics	1,000 pounds	3,195	3,237	3,338	3,235	3,297	3,523
Rayon and acetate	do.	2,793	2,653	2,721	2,045	1,955	2,119
Prices							
Non-cellulosic staple, 1.5 denier							
Acrylic	Dollars	0.68	0.68	0.68	0.68	0.68	0.68
Polyester	do.	.61	.61	.61	.61	.61	.61
Rayon viscose							
Staple							
Modified, 1.5 and 3.0 denier	do.	.38	.38	.38	.38	.38	.38
Regular, 1.5 denier	do.	.28	.28	.28	.28	.28	.28
Yarn, 150 denier	do.	.93	.93	.93	.93	.93	.93

^{1/} Preliminary. ^{2/} Seasonally adjusted. ^{3/} 5-week period. ^{4/} Combined upland and extra-long staple. ^{5/} End of month.
^{6/} On cotton-system spinning spindles, seasonally adjusted.

THE COTTON SITUATION

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SUMMARY

Cotton production of 11 million bales, as estimated on August 1 for this year, may be slightly below 1970/71 prospective disappearance (mill use and exports). As a result, stocks next August 1 may fall a little below the 5-3/4 million bales of August 1, 1970.

Higher yields and larger harvested acreage are responsible for the one tenth bigger cotton crop. The indicated national average yield is 470 pounds per acre, 9 percent above 1969. Although growing conditions are improved this year, weather and insect problems have again hampered the crop in some areas. The crop is being harvested from 11.3 million acres, 2 percent more than in 1969.

U.S. cotton disappearance may increase slightly during 1970/71; a range of 11 to 11-1/2 million bales now appears likely, compared with 10.8 million last season. There could be a moderate increase in exports and a possible slight gain in mill use. The U.S. export outlook appears brighter in view of larger prospective cotton use and smaller supplies in the foreign Free World and a little larger U.S. supply. An anticipated recovery in general economic activity should aid U.S. mill consumption.

Disappearance declined in 1969/70 for the third consecutive year. Although exports slightly exceeded the year-earlier level of 2.7 million bales, mill use of 8.0 million was at a 21-year low. U.S. exports were above earlier expectations during the latter months of 1969/70, aided by reduced supplies of foreign-grown cotton and larger shipments under special government programs.

The U.S. carryover on August 1, 1970, was 5-3/4 million bales, about 3/4 million below last summer. Although CCC stocks totaled near the year-earlier 2.9 million bales, privately owned stocks declined from 3.6 million to about 2-3/4 million.

Average spot market prices for most qualities of upland cotton have strengthened in recent months. Prices for most shorter staples now exceed year-earlier levels, reflecting tighter supplies, while longer staple prices are near or approaching last summer's levels.

In the foreign Free World, cotton use in 1970/71 may exceed production by a wider margin than last season. Production is expected to trail last year's 25.3 million bales--and beginning stocks are smaller--while consumption may increase slightly to a little over 27 million. This should favor some increase in U.S. cotton exports this season.

World man-made fiber production surpassed cotton output in 1969/70 for the first time. Production of man-made fibers totaled 18.3 billion pounds, equivalent to 56-1/2 million bales of cotton, about 10 percent above the previous year. World cotton production stood at about 51-1/4 million bales.

Significant changes occurred in U.S. cotton production in the 1960's. Production dropped

from an average of around 15 million bales to about 9-1/2 million, reflecting pronounced changes in both cotton acreage and yields. Yields exhibited wide year-to-year variation as well as a downward trend. The downtrend was largely due to a drop in cotton prices, changing skip-row acreage rules, and adverse growing conditions. Cotton acreage also showed some fluctuation and decline, dropping from an average of over 15 million acres in the first half of the decade to below 11 million in the latter. Acreage declined in response to lower cotton prices, government program changes, and narrowing cost-return relationships between cotton and other crops. Cotton acreage in the early 1970's may average a little above recent years. Yields, although moderately above the below-average 1969 level, are expected to show only a slight uptrend.

OUTLOOK AND RECENT DEVELOPMENTS

OUTLOOK FOR 1970/71

Larger 1970 Crop Will Nearly Match

Disappearance: Stocks May Drop Slightly

The 1970 cotton crop is indicated at 11 million running bales (August 1 forecast), up about 1 million from the small 1969 crop, but below the 1964-68 average. This places production near or slightly under anticipated disappearance (combined mill use and exports), leaving prospective stocks next August a little below the current level of around 5-3/4 million bales (table 4).

Although beginning stocks were down moderately, the one tenth larger 1970 crop indicates a slightly larger cotton supply this season. The supply may total about 16.8 million bales, compared with 16-1/2 million in 1969/70, which was the smallest since 1947/48.

Production Rises as Yields and Acreage Increase

Larger cotton production this season is due primarily to a 9 percent increase in prospective yields. The estimated national average yield is 470 pounds per acre, 37 pounds above the weather and insect reduced 1969 level, but below the 1964-68 average of 497 pounds (table 5). This year's crop has responded to generally

more favorable growing conditions in most sections of the Cotton Belt. However, weather and insect problems have led to reduced prospects in some areas.

Harvested acreage, estimated at 11.3 million acres, is up 2 percent from 1969 due to larger planted acreage stemming from a bigger 1970 upland cotton acreage allotment (table 6). Abandonment of planted acreage this year, at 6.7 percent, is about the same as last year.

Disappearance Prospects Better

Disappearance during 1970/71 may rise to a range of 11 to 11-1/2 million bales, up from 10.8 million in 1969/70. This prospect reflects a moderate gain in U.S. cotton exports plus a possible slight increase in mill consumption.

Exports are expected to total between 3 and 3-1/2 million bales, up from last season's low level of a little more than 2-3/4 million. This is based on the larger U.S. crop, particularly of the shorter staples, and slightly larger expected cotton use, smaller stocks, and a little lower production in the foreign Free World.

Mill use may remain near or slightly exceed last season's low level of 8.0 million bales, mainly dependent upon a recovery in general economic activity.

U.S. Mill Use Declines Further

CCC cotton stocks totaled about 3.0 million bales on August 1, near the year-earlier total of 2.9 million (tables 1 and 13). Although new crop loan activity was lighter last season because of smaller production, stocks of unsold CCC inventory were up significantly.

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96 Percent of 1969 Crop Mechanically Harvested

Machines were used to harvest all but 4 percent of the 1969 cotton crop, same as for the previous crop. This compares with 85 percent mechanization for the 1965 crop. Mechanical harvesting ranged from practically the entire crop in the West to about 90 percent in the Southeast (table 14).

Spot Market Prices Strengthen; Farm Prices Seasonally Higher

Average spot market prices for most qualities of upland cotton have strengthened in recent months. Prices for most shorter staples now exceed year-earlier levels, reflecting tightening of supplies, while longer staple prices are near or approaching last summer's levels.

The average spot market price for Middling 1-1/16 inch cotton was 25.59 cents per pound in July, a little above the previous month, but down slightly from the year-earlier level. For Middling 15/16-inch cotton, the price in July averaged 21.22 cents, up from 21.04 cents in June, and over 1-1/2 cents above July 1969 (table 15). Prices through mid-August remained firm for both the shorter and longer staples.

The average price received by upland cotton farmers in July was 22.65 cents per pound, seasonally above the June price of 22.31 cents (table 15). For the 1969/70 season, the preliminary price received by farmers for all kinds of cotton averaged 20.8 cents, compared with 22.15 cents for 1968/69.

Cloth Prices and Mill Margins Weaken

Following 2-1/2 years of price strengthening, the average wholesale value of fabric produced from a pound of cotton has weakened slightly in recent months. In July, the average was 68.46 cents, down slightly from June, but still a little above the year-earlier price (table 16).

As a result of these lower fabric prices and slightly higher prices paid by mills for raw cotton, the average mill margin for cotton fabric has declined. The margin in July was 43.11 cents, a little below June, but still fractionally higher than July 1969. Although near the year-earlier level, July raw cotton prices, at 25.35 cents, increased slightly for the ninth consecutive month (table 16).

Ratio of Mill Fabric Stocks to Unfilled Orders Edges Downward

The ratio of inventories to unfilled orders of cotton cloth has declined slightly in recent months. At the end of June, the seasonally adjusted ratio was 0.37, down from 0.41 the previous month, and a little below the year-earlier level (table 2).

If maintained, this downward trend indicates the likelihood of a slightly higher rate of cotton use during the current season. Both stocks and unfilled orders are at relatively low levels--about 10 percent below mid-1969. Thus, if economic activity increases during the next few months, orders should increase. This in turn would cause a further drop in the ratio, signaling that the demand increase would be reflected in expanded fabric production and cotton use.

Table 2.--Cotton broadwoven goods at U.S. cotton mills: Ratio of stocks to unfilled orders, seasonally adjusted, January 1966 to date 1/

Month	: 1966	: 1967	: 1968	: 1969	: 1970
January	: 0.20	0.26	0.37	0.43	0.43
February	: .19	.29	.42	.43	.45
March	: .18	.32	.42	.41	.44
April	: .17	.33	.41	.39	.43
May	: .17	.37	.42	.40	.41
June	: .17	.40	.42	.39	.37
July	: .17	.41	.40	.38	
August	: .18	.36	.42	.40	
September	: .18	.37	.44	.41	
October	: .21	.38	.41	.42	
November	: .23	.34	.40	.39	
December	: .25	.35	.40	.42	

1/ End of month.

Based on data from American Textile Manufacturers Institute, Inc.

Textile Trade Continues at High Level

U.S. imports and exports of cotton textile manufactures have remained at high levels during recent months. For the first half of calendar 1970, imports totaled the equivalent of about 507,000 bales, compared with 513,000 bales for the same period of 1969 (table 17). At the same time, exports of cotton textiles, at 228,000 equivalent bales, were almost identical to the year-earlier total (table 18).

Man-made fiber textile trade has expanded further in 1970. Thus far this year, imports are running 25 percent ahead of last year, while exports are up 5 percent (tables 19 and 20).

Extra-Long Staple Cotton Stocks Reduced: Shortfall Announced

Stocks of extra-long staple (ELS) cotton totaled about 109,000 bales this August, down from 155,000 bales a year ago. While demand for ELS declined last season, the supply was down even more, so stocks were reduced about 46,000 bales. Slightly weaker mill demand for ELS cotton more than offset larger exports. The smaller supply resulted from lower beginning stocks and smaller imports; production changed little (table 4).

Mill use and exports of American-Pima cotton are expected to increase this season. However, the 1970 crop, estimated at 78,100 running bales, also is a little bigger. Thus, the "shortfall" (quantity by which estimated requirements for domestic use and exports exceed production) has been set at 20,000 bales, down from 29,600 last season.

Slightly Larger Cotton Linters Supply Expected

The supply of cotton linters this season is expected to increase slightly, reflecting the larger 1970 cotton crop. Based on the August 1 estimate of the crop, cotton linters production should expand about one-tenth. With slightly lower beginning stocks, the total supply of linters may be up about 2 percent.

Cotton linters production totaled 1.2 million bales during 1969/70, down 10 percent from the previous year. Smaller production was about in line with the smaller 1969 crop. But consumption of 1.1 million bales showed little change. Exports remained at a low level, but were up slightly from the previous year, while imports increased to 155,000 bales (table 21).

Stability in consumption during 1969/70 resulted from a 5-percent decline in use of felting linters that about offset a 6-percent increase for chemical linters. Use of chemical linters responded to lower prices which averaged 2.78 cents a pound during 1969/70 compared with 3.47 cents in 1968/69 (table 22). Prices also declined for felting linters, but use continued to trend downward, probably reflecting a continued switch to substitute materials.

WORLD OUTLOOK AND DEVELOPMENTS

World Cotton Trade May Shrink This Season

World cotton exports in 1970/71 are projected by the Foreign Agricultural Service to decline moderately from last season's high level of 17.4 million bales. Reduced stocks and smaller prospective production in foreign Free-World countries likely will result in less cotton available for export.

Global cotton use is expected to exceed production by around 1 million bales. Both consumption and production may expand about 2 percent from last season's levels--when consumption totaled 52.8 million bales and production, 51.2 million.

Foreign Free-World Cotton Production May Fall Slightly in 1970/71; Larger Use Foreseen

The Foreign Agricultural Service estimates that 1970/71 foreign Free-World cotton production may decline about 1/4 million bales from last season's 25.3 million (table 23). Production is expected to be significantly lower in Mexico, Greece, and Iran. Smaller declines are expected in the UAR and Central America.

In contrast, cotton consumption in foreign Free-World countries may increase slightly despite continuing stiff competition from man-made fibers. Use is expected to increase almost 1/2 million bales from last season's 26.9 million, with most of the larger use originating in producing countries.

Net imports by Communist countries from foreign Free-World countries are estimated to fall slightly as such needs diminish in the face of larger prospective Communist production in 1970/71.

Government Financing of U.S. Exports Larger

U.S. cotton exports under specified government programs totaled an estimated 1.6 million bales during fiscal 1969/70, 1/2 million above the year-earlier level. Exports were larger under both Export-Import Bank financing and P.L. 480. Barter shipments were about double the previous year while CCC export credit sales (not included in the 1.6 million bales) were about the same (table 24).

Cotton Prices Slightly Higher in Import Markets

Prices for most qualities of both U.S. and foreign-grown cotton, c.i.f. Liverpool, have increased slightly in recent months and now exceed their year-earlier levels by 1-2 cents a pound in most instances. Recent price quotations for U.S.-grown cotton have generally averaged near those for competitive growths (tables 25 and 26).

The price of U.S. Strict Middling 1-1/16 inch cotton averaged 29.70 cents per pound in July, 1.12 cents above the c.i.f. Liverpool index for similar qualities. Both the U.S. price and the Liverpool index were above July 1969 (table 3).

U.S. and foreign average spot export prices are shown in table 27.

World Man-Made Fiber Output Higher

World man-made fiber production (including textile glass fiber) totaled a record 18.3 billion pounds in 1969, an increase of about 10 percent from the previous year. This was equivalent to 56.6 million bales of cotton, slightly over 5 million greater than 1969/70 world cotton production (table 28).

Although the gain in man-made fiber output was a little greater in foreign countries than in the United States, this country still produced nearly one-third of the world total. Both here and abroad, the sharpest advances were recorded for the non-cellulosic and textile glass fibers. U.S. man-made fiber production increased to the equivalent of 18.4 million bales of cotton (table 28).

Table 3.--Cotton: Index of prices of selected growths and qualities, and price of U.S. SM 1-1/16" c.i.f. Liverpool, England, January 1968 to date

Month	1968		1969		1970	
	Index	U.S. SM 1-1/16"	Index	U.S. SM 1-1/16"	Index	U.S. SM 1-1/16"
	1/	2/	1/	2/	1/	2/
<u>Cents per pound</u>						
January	33.10	36.31	28.19	29.01	28.19	28.75
February	32.42	34.28	27.78	28.79	28.08	28.81
March	31.84	33.62	27.83	28.60	28.19	29.00
April	31.26	32.80	28.31	28.60	28.38	29.31
May	30.90	32.70	28.64	28.60	28.50	29.40
June	30.68	33.18	28.19	28.49	28.50	29.45
July	30.56	34.30	27.74	28.13	28.58	29.70
August	30.61	34.30	27.09	28.00		
September	30.05	33.79	26.99	28.00		
October	29.91	31.94	27.15	28.15		
November	29.18	30.16	27.74	28.56		
December	3/28.55	3/29.30	3/28.25	3/28.75		
Average	30.74	33.07	27.82	28.47		

1/ Average of the 6 cheapest growths of SM 1-1/16-inch cotton actively traded for the period in Liverpool market. 2/ Based on offers of minimum micronaire of 3.5 to 4.9. 3/ Average of 3 quotations.

Compiled from Foreign Agricultural Service records and the weekly Cotton and General Economic Review, Liverpool, England.

YIELD AND ACREAGE IMPLICATIONS FOR U.S. COTTON ^{1/}

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ABSTRACT: *The past several decades have seen important modifications in the production of U.S. cotton. Acreage restraints and diversion programs have been instrumental in reducing acreage planted to cotton, while price support loan rates and direct payments to producers have sustained farm income. Yields trended upward until the mid-1960's, maintaining production. But since 1965, the trend has been interrupted and production has fallen. This study attempts to explain this decline through an analysis of factors affecting production. Equations are developed to explain variation in yields and planted acreage in each region during the 1960's, and are summed to achieve an aggregate model. The outlook for production in the early 1970's is discussed and possible trends are indicated.*

KEY WORDS: *Cotton, cotton production, cotton price, cotton yields, cotton acreage, skip-row acreage.*

INTRODUCTION

The achievement of a high standard of living by the United States in the twentieth century has been greatly facilitated by the success of agriculture. An abundance of food and fiber, made possible primarily by a sharp rise in crop yields, has allowed resources to flow into industrial channels, stimulating substantial economic growth. Until recent years, cotton shared in the general crop yield uptrend. However, cotton yields leveled off in the mid and late 1960's. If output per unit remains stagnant and population continues to grow, questions will increasingly be raised over both the capabilities and limitations of the cotton economy. This study seeks to provide a method for statistical evaluation of the productive capacity of cotton in the United States by analyzing factors which affect cotton acreage and yields.

As with most other agricultural commodities, cotton has been produced on smaller

and smaller amounts of land. From the 1930's to the mid-1960's, because of rapidly increasing yields, production declined only slightly despite a halving in acreage. Prior to 1966, cotton production during the post-World War II period ranged from 10 to 17 million bales. It fell to slightly below 10 million in 1966, and has remained near this level since.

Production is affected by many factors, institutional as well as economic. Economic factors include costs and returns for cotton compared with alternative crops or enterprises which influence input decisions. Among institutional factors are government programs which have maintained acreage allotments, marketing quotas, and price supports.

^{1/} This article is the second in a series on the domestic cotton industry's structure and the supply and demand for raw cotton.

COTTON YIELDS

Between the Civil War and the end of World War I, U.S. cotton yields averaged about 180 pounds per acre, fluctuating somewhat, but exhibiting no particular trend. However, after falling to a record low in 1921, yields trended gradually upward for about 30 years. In the 1950's, the uptrend accelerated. Performance in the 1960's varied widely; yields ranged from a high of 527 pounds per acre in 1965 to a 433-pound low in 1969 (table 1). This yield behavior in the 1960's prompted an attempt to identify and measure factors influencing yields.

The upward trend during the 1950's was due to increasing fertilizer inputs, improving cultural practices, and shifting acreage within and among regions and toward use of better land and more efficient land use. Then, in 1961, a new factor was introduced--liberalized rules for measuring cotton acreage planted in skip-row patterns against the allotment. For instance, in a plant-two-skip-two pattern, an allotment acre could be spread over 2 acres of land. With an increase in skip-row planting and relatively high prices in the first half of the 1960's yields continued to trend upward and peaked in 1965.

Under the Food and Agricultural Act of 1965, direct payments were made on production on the domestic allotment (65 percent of the total allotment) to supplement farm income; this acreage was generally planted to cotton in all regions. Returns from cotton planted on the balance of the allotment reflected world cotton prices. Since production costs were rising faster than efficiency in some areas, competing crops became profitable alternatives to cotton. ^{2/} Thus, expectations of farmers in regard to returns from cotton and competing crops began to play an increasing role in determining both planting patterns and the rate of using yield-augmenting inputs.

The national yield reached 527 pounds per acre in 1965 as the result of large skip-row plantings and relatively high prices. With the lower loan rate of the Food and Agriculture Act of 1965 and more restrictive skip-row planting rules in 1966 and 1967, yields fell

^{2/} For latest available data on costs in various regions, see 1966 Supplement to "Cost of Producing Upland Cotton in the United States, 1964," Agricultural Economic Report 99, Econ. Res. Serv., U.S. Dept. Agr.

sharply in those years. Yields in 1968 responded to favorable 1967 crop prices and relaxed skip-row planting rules, but remained below the 1965 peak. Then in 1969 yields fell to the lowest level in over a decade. Although 1968 prices were down somewhat, 1969 yields would have probably remained at a relatively high level in the absence of extremely adverse growing conditions in some States.

Thus, it became apparent in the late 1960's that trend alone no longer was a good predictor of cotton yields. ^{3/} Costs of production were close to or above market returns in some areas and cotton had to compete with alternative crops for yield-augmenting inputs. The interplay of cost-returns relationships, skip-row planting practices, and weather presently appear to be dominant forces influencing cotton yields.

Factors Affecting Cotton Yields

Many factors influence cotton yields; some such as skip-row acreage and cotton price can be quantitatively measured. Unfortunately, the impact of other important elements such as weather and quality of management, cannot. Nevertheless, such factors must be recognized in any discussion of cotton yields.

Economic Factors

Cotton price is a major determinant of inputs and expectations. Closely related to price is the loan rate, which in effect provides a floor for cotton prices. In the early 1960's, both the loan rate and price generally were above costs of production, but with the lower loan level and reduced prices of the last half of the decade, the inverse was generally true. Consequently, producers must give price increasingly close scrutiny when determining the level or the "mix"

^{3/} Previous studies utilized only time trends in explaining the increasing yields from the late 1930's to the early 1960's. In this study, trend alone was used only in the Southwest, where no responses were found to economic factors. For an analysis of yields utilizing trend from 1947-1962, see Donald, J. R. and Wittmann, Charles H., "Postwar Changes in U.S. Cotton Production," Cotton Situation, CS-205, p. 11. For an analysis of earlier periods, Rafler, Doris A., and Wittmann, Charles H., "Cotton Acreage and Yield, 1937-57," Cotton Situation, CS-179, p. 26.

Table 1.--Cotton: Acreage, planted and harvested, production, and yield per acre on harvested acreage, by regions, 1960 to date

Crop year beginning August 1	West 1/		Southwest 2/		Delta 3/		Southeast 4/		Total
	1,000 acres	Percent of total	1,000 acres	Percent of total	1,000 acres	Percent of total	1,000 acres	Percent of total	1,000 acres
Planted acreage 5/									
1960	1,619	10.1	7,455	46.3	4,433	27.6	2,573	16.0	16,080
1961	1,446	8.7	7,785	46.9	4,639	28.0	2,718	16.4	16,588
1962	1,454	8.9	7,595	46.6	4,573	28.1	2,671	16.4	16,293
1963	1,353	9.1	6,845	46.1	4,165	28.1	2,480	16.7	14,843
1964	1,338	9.0	6,839	46.1	4,182	28.2	2,477	16.7	14,836
1965	1,274	9.0	6,435	45.5	4,094	28.9	2,349	16.6	14,152
1966	1,031	10.0	4,712	45.5	2,989	28.9	1,617	15.6	10,349
1967	977	10.3	4,385	46.4	2,720	28.8	1,366	14.5	9,448
1968	1,158	10.6	4,871	44.7	3,343	30.6	1,540	14.1	10,912
1969	1,186	10.0	5,675	47.7	3,508	29.5	1,529	12.8	11,898
1970 6/	1,117	9.2	5,938	48.9	3,560	29.3	1,523	12.6	12,138
Harvested acreage									
1960	1,577	10.3	6,955	45.4	4,284	28.0	2,493	16.3	15,309
1961	1,409	9.0	7,205	46.1	4,404	28.2	2,616	16.7	15,634
1962	1,418	9.1	7,112	45.7	4,434	28.5	2,605	16.7	15,569
1963	1,310	9.2	6,440	45.3	4,042	28.5	2,420	17.0	14,212
1964	1,306	9.3	6,250	44.5	4,080	29.0	2,421	17.2	14,057
1965	1,241	9.1	6,120	45.0	3,974	29.2	2,280	16.7	13,615
1966	1,006	10.5	4,348	45.5	2,774	29.1	1,424	14.9	9,552
1967	957	11.8	3,895	49.2	2,262	27.8	883	11.2	7,997
1968	1,138	11.2	4,505	44.3	3,049	30.0	1,468	14.5	10,160
1969	1,163	10.5	5,140	46.4	3,371	30.4	1,401	12.7	11,075
1970 7/	1,092	9.6	5,477	48.4	3,343	29.5	1,412	12.5	11,324
Production									
	1,000 bales 8/	Percent of total	1,000 bales 8/	Percent of total	1,000 bales 8/	Percent of total	1,000 bales 8/	Percent of total	1,000 bales 8/
1960	3,086	21.6	4,804	33.7	4,448	31.2	1,934	13.5	14,272
1961	2,823	19.7	5,155	36.0	4,497	31.4	1,843	12.9	14,318
1962	3,128	21.0	5,037	33.9	4,724	31.8	1,978	13.3	14,867
1963	2,830	18.4	4,753	31.0	5,423	35.4	2,328	15.2	15,334
1964	2,822	18.6	4,410	29.0	5,483	36.1	2,467	16.3	15,182
1965	2,714	18.2	5,037	33.6	5,066	33.8	2,156	14.4	14,973
1966	1,928	20.1	3,396	35.5	3,086	32.2	1,165	12.2	9,575
1967	1,655	22.2	2,961	39.7	2,184	29.3	658	8.8	7,458
1968	2,488	22.7	3,789	34.6	3,621	33.1	1,050	9.6	10,948
1969	2,109	21.2	3,141	31.6	3,705	36.7	1,060	10.5	10,015
1970 7/	1,971	17.8	3,888	35.1	4,068	36.7	1,152	10.4	11,079
Yield per acre on harvested acreage									
	West 1/	Southwest 2/	Delta 3/	Southeast 4/	United States				
	Pounds 2/	Pounds 10/	Pounds 2/	Pounds 10/	Pounds 2/	Pounds 10/	Pounds 2/	Pounds 10/	Pounds 2/
1960	937	982	331	345	497	494	371	376	446
1961	959	992	343	339	489	537	338	384	438
1962	1,056	1,004	339	341	510	556	363	404	457
1963	1,034	1,026	354	354	642	579	461	421	517
1964	1,035	1,018	338	360	643	587	488	431	517
1965	1,047	972	394	365	610	578	453	430	527
1966	918	975	375	375	532	563	392	406	480
1967	828	942	364	366	462	540	356	381	447
1968	1,047	905	404	355	569	535	342	369	516
1969	868		293		527		362		433
1970 7/	866		341		584		392		470

1/ California, Arizona, New Mexico, and Nevada. 2/ Texas and Oklahoma. 3/ Missouri, Arkansas, Tennessee, Mississippi, Louisiana, Illinois, and Kentucky. 4/ Virginia, North Carolina, South Carolina, Georgia, Florida, and Alabama. 5/ Not adjusted for final acreage compliance with allotments. 6/ Crop Reporting Board report of July 8, 1970. 7/ Crop Reporting Board report of August 10, 1970. 8/ 500-pound gross weight bales. 9/ Actual yield per acre. 10/ Yield trend--the 5-year centered average. Statistical Reporting Service.

of inputs, such as planning irrigation outlays for the season. At planting time, prices received for the previous crop play an important role, as they provide the farmer with the best indication of how much current price may exceed the loan rate. Also, the previous year's receipts partially determine how much capital can be acquired or how much money allocated to inputs. If higher prices are anticipated, inputs may be increased.

Current cotton prices probably affect yields also. For instance, when prices are low, farmers may not find it profitable to go over their fields as often--thus yields are reduced. However, yields and current prices are not predetermined. Yields may influence current price to a great extent, so a basic assumption of least squares analysis would be violated by its inclusion. While the loan rate is perhaps a further indicator of current expectations, it was so highly intercorrelated with both current and lagged price that it was useless in the analyses. Therefore, price was used, lagged 1 year.

Acreage shifts to more efficient cotton producers and areas boost yields. This probably contributed to some of the yield uptrend of the 1950's; acreage in the higher-yielding West increased about 50 percent. While little regional shift has occurred since 1960, shifts within particular States are constantly being made to more efficient producers.

The availability and quality of labor may affect yields and especially planted acreage. As cotton production becomes more mechanized, output per man-hour rises. However, in many areas labor is scarce as well as costly. Higher prices for labor, due partly to minimum wage legislation, contribute to increased total variable cost. Also, the seasonal nature of demand for cotton labor increases costs to the farmer if he must retain laborers year-round, as he may be forced to do if labor is scarce. Furthermore, technological innovation may be dampened by labor limitations. For example, use of some very wide cultivating equipment is not feasible because it produces extreme operator fatigue. These factors may individually or conjunctively raise costs, adversely affecting both yields and planted acreage.

Technology and Research

Cotton yields have been increased by technological advances. However, since 1965, yields have shown little uptrend except in the Southwest. Thus, the influence of research and technology,

although still important, has apparently been overshadowed recently by other variables such as weather, planting patterns, and the cost-returns relationship.

Treatment of acreage for control of insects and pests affects yields. In 1964, the most recent year for which data are available, 60 percent of U.S. harvested acreage was treated. ^{4/} This ranged from a low of 44 percent in the Southwest to a high of 86 percent in the West (table 2). Due to recent emphasis on pollution control, use of some types of insecticides and pesticides may be sharply restricted. While alternative methods to control insects and pests have been developed, these methods appear more costly, yet less efficient than present practices. ^{5/}

Weed control measures also affect yields. In 1964, over one-fourth of U.S. harvested acreage was treated (table 2). The effect of herbicides on yields is debatable. Arguably, they increase yields by allowing the cotton stalk to grow, free from competition with weeds and other plants. But herbicide residues in the soil may inhibit cotton growth, diminishing yield potential as in the case of pesticides and insecticides. The use of herbicides may also be curtailed in the future. Weeds could probably be controlled by extensive mechanical cultivation. While more labor and machinery inputs would be required, other expensive inputs would be displaced and costs might not increase appreciably.

Fertilizer significantly affects cotton yields. In 1964, it was applied to about three-fourths of total U.S. acreage (table 2). Increased use of fertilizer may have been responsible for much of the uptrend in cotton yields in the 1950's.

^{4/} Some data imply that treatment for control of cotton insects and pests may be increasing. While total use of all insecticides declined 14 percent from 1964 to 1966, a decline in cotton acreage of more than 32 percent indicates more intensive use of insecticides.

^{5/} USDA economists recently found that restriction of organochlorides on cotton would increase production costs by an average of \$3.12 per acre treated. This cost would vary among regions and States. Costs in the Delta States would increase by \$3.90, while in Arizona and New Mexico, due to the pink boll worm and the cotton leaf perforator, costs would increase by \$7.22. Agricultural Economic Report 178, p. 10, Econ. Res. Serv., U.S. Dept. Agr.

Table 2.--Use of fertilizer, herbicides, and pesticides
on cotton acreage, 1964

Region	Total acreage	Acreage treated					
		Insects and pests		Herbicides		Fertilizer	
		1,000 acres	Percent	1,000 acres	Percent	1,000 acres	Percent
Delta	4,048	2,732	67	2,183	54	3,635	90
Southwest	6,203	2,730	44	570	9	3,302	53
West	1,317	1,133	86	354	27	1,261	96
Southeast	2,349	1,692	72	939	40	2,264	96
U.S. <u>1/</u>	13,917	8,286	60	4,047	29	10,462	75

1/ May not add due to rounding.

1964 Census of Agriculture.

Fertilizer use rose between 1959 and 1964. In 1964, 25 percent more fertilizer was applied to 8 percent less acreage than 1959. Fertilized acreage increased from 8.5 to over 10 million acres, most of the increase being in the Southwest. Insufficient data, however, preclude the use of this input in the analyses.

Cotton yields on irrigated acreage are substantially higher than on non-irrigated, holding other factors constant. In 1964, the average yield on irrigated acreage was 743 pounds per acre, over 50 percent higher than the average

on non-irrigated. In the West and Southwest, irrigation more than doubled the average yield (table 3). Irrigation costs are rising in many areas, notably the High Plains and the West as water becomes more scarce. In Arizona and New Mexico, cotton now has to compete with industry for water. These factors may contribute to increased costs of production, and if water use is curtailed, yields may drop sharply. The significance of irrigation is likely to increase as competing crops and industry intensify the demand for water currently allocated to cotton.

Table 3.--Irrigation of cotton land, 1964

Region	Acreage			Yields	
	Total	Irrigated	Percentage irrigated	Irrigated	Not irrigated
	-- 1,000 acres --		-- Percent --	-- Lbs./acre --	
Delta	4,048	248	6	748	653
Southwest	6,203	2,138	35	552	221
West	1,317	1,310	99	1,060	426
Southeast	2,349	10	<u>1/</u>	686	466
U.S. <u>2/</u>	13,917	3,750	27	743	451

1/ Less than .05 percent. 2/ May not add due to rounding.

1964 Census of Agriculture.

Mechanized harvesting may affect cotton yields adversely, as more bolls likely are knocked from the stalk and wasted. In addition, when expected returns are low, the farmer probably has little incentive to work his field with a harvester an additional time. When the cotton was handpicked, fields likely were picked cleaner. However, mechanical harvesting allows producers to gather their entire crop during optimum harvesting conditions in the fall, without field losses resulting from adverse winter weather.

Cultural Practices

Probably the most important cultural practice affecting cotton yields is planting in skip-row patterns. The alternating of strips of cotton rows with idle land increases yields by giving cotton stalks additional room in which to grow and mature. The relationship between skip-row acreage and yields in the 1960's was found to be very significant in most of the large producing States. A simple regression indicated that almost half of the national yield variation in the 1960's was explained by skip-row acreage, holding other factors constant. The relationship is positive, as yields are computed on an allotment acre basis. Only that acreage which incorporated less than 4 rows skipped was used in the analyses. Other skip-row planting patterns generally are designed for soil conserving purposes. In Texas, because of low soil moisture levels, skip-row plantings historically have been large. The magnitude of skip-row acreage is determined by government rules for measuring skip-row acreage against allotments. The effect of such actions may be noted by examining either yields in 1966-67 or the actual level of skip-row acreage planted under more restrictive rules (table 4).
6/.

6/ The rules for measuring skip-row acreage affect output obtainable from an acre of cotton allotment. With the exception of 1966 and 1967, the idle land beyond one-half of the normal width of a row (20 inches) was not counted as cotton when computing the acreage of cotton in a field. This had the effect of spreading the allotment over more acreage. In 1966 and 1967, the rule for plantings with 4 or more rows skipped was unchanged. However, for other skip-row planting patterns where the row width was 40 inches, not only the land planted to cotton, but also the 32 inches (12 inches more than in other years) beyond the outside rows next to the idle land

Research is continuing on development and improvement of cotton varieties. As varieties are developed with more desirable characteristics, such as increased insect resistance or more bolls per stalk, yields normally are expected to rise. However, this is not always the case. Other factors, such as price, may overshadow the impact of higher yielding varieties. For example, when prices for longer stapled cotton rose in 1968, producers shifted to lower yielding, longer stapled varieties to maximize returns.

Cotton acreage has been shifting to more efficient farms, which utilize more advanced management techniques. This contributes to higher yields and lower per unit costs.

Weather

Weather also plays a significant role in determining cotton yields. Yields in non-irrigated areas are susceptible to drought, while even in irrigated areas, extremely high temperatures can offset extensive irrigation by causing plant damage. Warm damp weather increases the likelihood of severe insect damage to the crop while freezing temperatures in the fall may adversely affect yields.

The absence of relevant weather data precludes its use in the analyses; it was believed that over a period of time, good weather would offset bad so that the regression coefficients would not be biased by its exclusion. However, an 0-1 variable was included in the Southwest analysis in 1969 to account for weather's adverse effects.

Regression Analysis of Cotton Yields

With the above considerations as a guide, multiple regressions were formulated for U.S. and regional cotton yields. The basic formulation selected was the relating of trend, price, and skip-row acreage to yields. The data were transformed into logarithms; the relationships were believed to be multiplicative rather than additive.

were charged as cotton acreage under the allotment program. Since the Statistical Reporting Service of USDA reports yields on the basis of allotment acreage, the above rules may largely determine planting patterns, and also how much land is considered an allotment acre for reporting of cotton planted in skip-row patterns.

Table 4 --Upland cotton: Acreage of skip-row planting patterns, crops of 1961-69

Crop year beginning August 1	West 1/	Southwest 2/	Delta 3/	Southeast 4/	Total
	Acres				
	Less than four rows skipped				
1961	---	570,458	2,667	4,184	577,309
1962	326,536	1,368,126	85,541	13,036	1,793,239
1963	404,136	1,285,051	235,794	37,525	1,962,506
1964	425,733	1,351,498	387,057	61,608	2,225,896
1965	474,931	1,537,546	579,947	146,080	2,738,504
1966	20,759	322,006	22,109	41,030	405,904
1967 5/					
1968	368,636	845,718	479,449	88,742	1,782,545
1969	290,830	1,250,913	434,093	77,619	2,053,455
	Four or more rows skipped				
1961	112,499	648,419	55,388	3,323	819,629
1962	27,775	215,708	33,996	2,388	279,867
1963	9,531	146,257	30,628	11,308	197,724
1964	10,743	140,617	36,628	3,568	191,556
1965	7,530	115,123	29,207	4,245	156,105
1966	192,281	606,279	347,583	40,902	1,187,045
1967 5/	192,092	864,449	307,291	61,807	1,425,639
1968	16,082	246,101	42,712	7,378	312,273
1969	3,672	110,985	20,334	2,381	137,372

1/ West includes California, Arizona, New Mexico, and Nevada. 2/ Southwest includes Texas and Oklahoma. 3/ Delta includes Missouri, Arkansas, Tennessee, Mississippi, Louisiana, Illinois, and Kentucky. 4/ Southeast includes Virginia, North Carolina, South Carolina, Georgia, Florida, and Alabama. 5/ Breakout of rows skipped not available. For analytical purposes, it was assumed that the same percentage of each category was planted in 1967 as under similar rules in 1966.

Based on data from the Agricultural Stabilization and Conservation Service.

United States

The best formulation for U.S. cotton yields utilized trend, price, and skip-row acreage. 7/ It is statistically unacceptable. Although 70 percent of the variation in U.S. cotton yields is explained, skip-row and price are insignificant (table 5). Thus, since the aggregate equation was considered inadequate, regional analysis was deemed necessary.

7/ In the U.S. regression, 1954 is used for the beginning of the analysis, as allotments were reinstated that year. Consideration of different time periods did not materially affect the results of the equation.

Delta 8/

Cotton yields in the Delta States experienced rather wide fluctuations during recent years. About 90 percent of cotton land in this region is fertilized, almost none is irrigated, and just over half is treated for weed, insect, and pest control (tables 2 and 3). It was considered necessary to portray the large acreage allotments, instituted in 1954. However, 1955 and 1956 were very good years--far above the normal trend of the 1950's. Consequently, the analysis was begun in 1957. In the Delta, a significant uptrend in

8/ Mississippi, Louisiana, Arkansas, Missouri, and Tennessee.

yields was discernible during the early part of the period. Thus, trend was included with cotton price and skip-row acreage in the Delta equation.

These variables explained about four-fifths of the variation in Delta cotton yields. The regression coefficients were significant at the 5-percent level with the expected signs (table 5). The equation indicates that a 10-percent increase in cotton prices and skip-row acreage will increase yields 4.5 and 0.3 percent, respectively.

West 9/

The highest cotton yields in the United States are in the West, where almost one-fourth of U.S. cotton is produced on about 10 percent of total acreage. Most cotton land is irrigated, fertilized, and treated for pests (tables 2 and 3). Much of the acreage is planted in skip-row patterns.

In the West, price was hypothesized to be a major determinant of yields, as it influences inputs. In a high cost area such as the San Joaquin Valley, a higher price leads to greater inputs which augment yields. Water scarcity could affect yields in the future, as could increasing competition from industry for water, particularly in New Mexico and Arizona. As the cost-return ratio narrows, other crops that require less water, such as barley, may also begin to compete with cotton for inputs.

No uptrend was evident from 1957 to 1969. Consequently, the equation utilized only price and skip-row acreage. The same time period as in the Delta was used so that the coefficients could be easily compared. These variables explained about 90 percent of yield variation in the West. The regression coefficients were significant at the 1-percent level with the expected signs (table 5). The equation implies that a 10 percent increase in cotton price is associated on the average with a 6-percent increase in yields, while a 10-percent increase in skip-row is associated with a 0.1 percent increase in yields.

9/ California, Arizona, and New Mexico.

Table 5.--Yield analysis

Region	Intercept	Regression Coefficients <u>1/</u>				R ²
		Trend <u>2/</u>	Price <u>3/</u>	Skiprow <u>4/</u>	0-1 <u>5/</u>	
Southwest <u>6/</u>	182.96	12.18 (1.35)	---	---	-133.51 (35.83)	0.83
West	2.02	---	0.64 (0.07)	0.0135 (0.0027)	---	0.91
Delta	1.92	0.14 (0.06)	0.45 (0.16)	0.03 (0.01)	---	0.81
Southeast	1.89	0.01 (0.10)	0.45 (0.25)	0.04 (0.04)	---	0.34
U.S.	2.23	1.34 (0.04)	0.21 (0.14)	0.01 (0.01)	---	0.71

1/ Figures in parentheses are standard errors of estimate. 2/ 1950-69 in Southwest. In other areas, trend was used from 1957 to 1961 and held at the 1961 level through 1969. 3/ Average weighted undeflated prices received by farmers for upland cotton lagged one year, 1957-69. 4/ Less than 4 rows skipped. 5/ Included in 1969 to account for extremely adverse weather. 6/ Not in logarithms.

Southwest 10/

Almost half of U.S. cotton acreage is in the Southwest, where yields generally fall below the U.S. average. This region applies fertilizer to about half its cotton land and irrigates just over one-third (table 3). Since two-thirds of U.S. skip-row acreage is in Texas and Oklahoma, it would be expected to significantly affect yields. However, in the simple relationship, skip-row was insignificant. Even when price was added as an additional explanatory variable, less than 10 percent of the variation in the region was explained. One explanation for the insignificance of skip-row acreage in the Southwest is that in many years soil moisture is so low that the effects of planting in skip-row patterns are negligible.

Despite the inadequate soil moisture in the Southwest, yields have continued the uptrend of the 1950's. Improved technology and increasing irrigation likely were responsible. In 1964, the average yield on irrigated acreage was more than double that on non-irrigated Texas land. Irrigation increased significantly in Texas between 1959 and 1964 (latest data available) and probably has continued to increase since. Extremely adverse weather was responsible for poor yields in 1969; thus, a dummy 0-1 variable was included, along with a time trend, beginning in 1950.

This formulation explained over four-fifths of the variation in Southwestern cotton yields. The regression coefficients were significant at the 1-percent level with the expected signs (table 5). The equation indicates an increase of 12 pounds per acre per year, which may be too high. For the more recent period of 1961-69,

10/ Texas and Oklahoma,

a simple trend with an 0-1 inclusion in 1969 implies an uptrend of about 8 pounds per acre which appears more reasonable. Future yields in the Southwest may well be determined largely by the availability of water on the High Plains, soil moisture in other areas, and the cost-returns relationship between cotton and sorghum grains.

Southeast 11/

In the Southeast, yields are generally below the national average. Weather often plays an important role, causing yields to fluctuate greatly. There is generally little irrigation and very little skip-row planting. The area had as of 1964 the highest percentage of land treated with fertilizer and the lowest percentage treated for insects. The most satisfactory formulation for the Southeast included price, trend beginning in 1957 and held constant after 1961, and skip-row acreage.

This equation explained only about one-third of the variation in Southeastern cotton yields. The regression coefficients were insignificant (table 5) and neither yields nor the residuals of the equation showed any measurable pattern. Therefore, instead of the above equation, a 5-year moving average was used for this region in the overall model; the statistical fit achieved was better than those from either linear trend or a simple average. The last 2 years were held constant at the indicated 1967 level, resulting in some overstatement during the last 3 years due to adverse weather. The statistical fits of the yield equations are shown in figure 1.

11/ South Carolina, North Carolina, Alabama, and Georgia.

PLANTED ACREAGE

Factors Affecting Acreage

As with yields, factors affecting the amount of U.S. acreage planted to cotton are of an economic and institutional nature. Economic factors include prices received and returns to

cotton in comparison with other crops. Institutional aspects include acreage allotments and marketing quotas. Legislative action may change allotments or loan rates for cotton or other crops. Thus, prices received for cotton or other crops are affected and planting patterns change. As prices for cotton fall in relation to prices

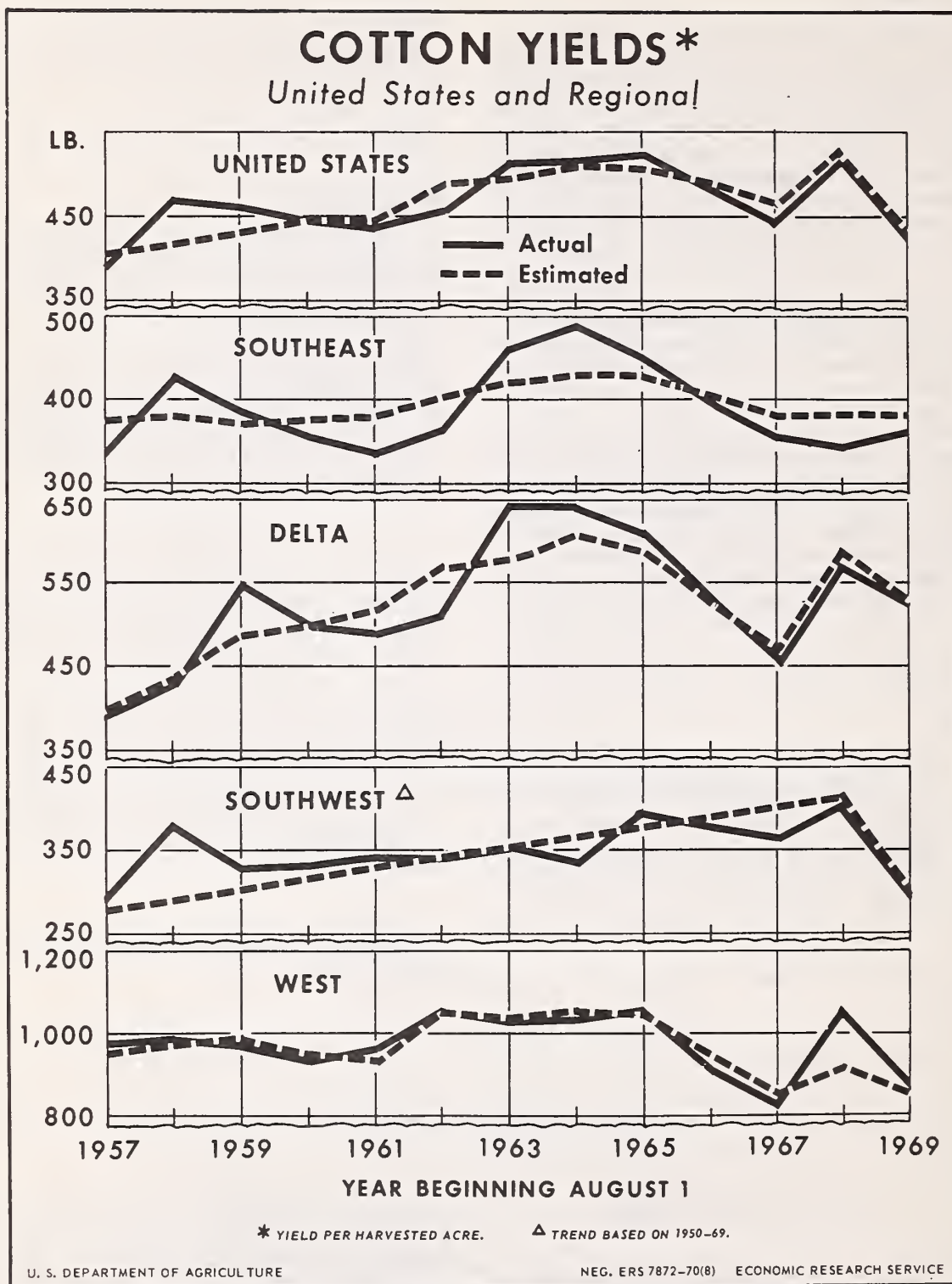


Figure 1

received by farmers for competing crops, cost-returns positions may be visibly altered and the planting "mix" may change. ^{12/} In many parts of the United States, the cost-returns position of cotton compared to other crops has recently narrowed, until total variable costs of production may be approaching or below total returns from cotton production. It is this relationship which determines the amount of acreage which will be planted above the domestic allotment, as most farmers are assumed to plant their domestic allotment when government price-support payments are made for cotton grown thereon.

Several analysts have used various techniques to predict cotton acreage response to cotton price. For example, Walsh ^{13/} found a close inverse relationship between corn acreage and cotton acreage, but no significant statistical relationship between corn or livestock price and acreage in cotton. This implies that at that time, there was little or no price competition between cotton and other crops for land. The Walsh analysis used a deflator so that the cotton price series would also be an indicator of production costs. The price elasticity achieved was 0.2 at pre-war acreage levels. ^{14/}

^{12/} A November 1966 study found cotton to be included in the optimum organization of most farms in cotton-producing areas at prices between 19-24 cents. Significant changes in acreage were elicited by changes in price levels of cotton. "Cotton: Supply, Demand, and Farm Resource Use," Southern Series Bulletin 110, Various Agricultural Experiment Stations in Cooperation with Econ. Res. Ser., U.S. Dept. Agr., p. 17.

^{13/} Walsh, Robert M. "Response to Price in Production of Cotton and Cottonseed," Journal of Farm Economics, Vol. 26, May 1944.

^{14/} In a later study, Nerlove devised a distributed lag model which implied a much higher cotton price elasticity. He felt that lagged price alone was insufficient to reflect farmers' expectations. So, his model incorporated both lagged acreage and price, weighted over several years in the past. He believed that the producers' decision making would thus reflect past experience rather than be the results of a single price in a single year. Also, a better predictor was obtained by this procedure. Nerlove, Marc. "Estimates of the Elasticities of Supply of Selected Agricultural Commodities," Journal of Farm Economics, Vol. 38, May 1956.

As cotton faced little direct price competition with other crops for land during the period covered, costs of producing cotton (reflected in the Walsh deflator) in relation to cotton price was the major determinant of cotton acreage. However, in the postwar period (and especially in the last decade), the cost of producing cotton is no longer the sole determinant. The effect of government programs must now be analyzed. Also, some method must be devised to reflect intercrop competition for land over the domestic allotment. As cost data are incomplete, it was believed that the price levels of these crops would best depict the cost-returns relationship among cotton and these crops, and would translate changes in the relationship into acreage shifts to and from cotton.

Thus, price levels of cotton and competing crops lagged one year were used to show cost-returns relationships as well as expectations. In addition, in three regions and in the U.S. equation, percentages of diversion required by law in 1966-68 were used as "shift" variables to reflect acreage reductions. ^{15/}

Regression Analysis of Cotton Acreage

Multiple regressions based upon the above considerations were run for each of the four major cotton-producing regions. Data were transformed into logarithms, since the relationships between the variables were believed multiplicative rather than additive.

United States

Different crops affect cotton in various regions. Some crops, such as peanuts and tobacco in the Southeast, yield higher returns than cotton, as does rice in some small sections of the Delta. And while cattle price indirectly affects cotton acreage through the sorghum-forage-feeder cattle cycle in Texas, it is believed the grain

^{15/} Percentages of diversion were used to portray shifts in 1966-68 rather than 0-1 variables in the acreage equations, as the percentage of diversion required changed from 12.5 percent of the total allotment in 1966-67 to 5.0 percent in 1968. Also, Southwestern farmers tended to divert more than the minimum required by law, often diverting all acreage on which payments would be received. Thus, the percentages used indicate something of the magnitude of the shifts.

sorghum price adequately represents competition facing cotton in the Southwest. In developing a national equation cotton's major competitor in each region was represented by its price. However, these prices were found to be so highly intercorrelated that their efficacy was greatly impaired.

Although the equation explained about 95 percent of the variation in U.S. planted acreage in cotton during 1960-69, only two regression coefficients, cotton price and diversion, were significant (table 6). Two did not have the expected signs. The equation was statistically inadequate, necessitating the derivation of an equation for each region. An aggregate model may be achieved by summing results of the regional equations.

Southwest

Almost half of U.S. cotton acreage is located in Texas and Oklahoma. The Southwest is generally an area of low per unit returns--cotton is subject to adverse weather, especially drought--and yields are generally low. In many parts of the Southwest, total variable costs of producing cotton are approaching total returns.

On land above the domestic allotment, cotton may not be able to compete with forage or grain sorghum. For example, in the Blacklands area, forage sorghum may yield returns of \$25 to \$30 per acre more than cotton. Also, most Southwestern farmers take full advantage of government acreage diversion programs. For example, Chappell found that if a 6 cent per pound diversion payment is made, over 1.1 million acres in the Southwest will be diverted. ^{16/} Thus maximum diversion permitted in 1966-68 was incorporated along with cotton and grain sorghum price into an equation for the Southwest (table 6).

This formulation explained over 90 percent of the variation in cotton acreage planted in the Southwest. The regression coefficients are significant at the 5-percent level with the expected signs. The equation indicates that a 10-percent change in cotton price causes a 4-percent change in acreage in the same direction. A 10-percent change in sorghum price causes about a 6.5-percent inverse cotton acreage response.

^{16/} Chappell, Grover C. "Cotton Looks Good," Cotton International, Meister Publishing Co., 1969, p. 32.

Table 6.--Planted acreage analysis

Region	Intercept	Régression coefficients <u>1/</u>				Diversion <u>3/</u>	R ²
		Price <u>2/</u>					
		Cotton	Soybeans	Sorghum	Barley		
Southwest	3.23	0.41 (0.12)	--- ---	-0.65 (0.31)	--- ---	-0.0030 (0.0008)	0.94
West	2.57	0.41 (0.19)	--- ---	--- ---	-1.72 (0.61)	-.004 (0.003)	0.91
Delta	3.12	0.45 (0.17)	-0.45 (0.17)	--- ---	--- ---	-0.008 (0.002)	0.96
Southeast	1.70	1.29 (0.25)	-0.71 (0.36)	--- ---	--- ---	--- ---	0.88
U.S.	3.17	0.59 (0.19)	0.33 (0.76)	-1.07 (1.03)	0.85 (1.24)	-0.011 (0.005)	0.95

^{1/} Figures in parentheses are standard errors of estimate. ^{2/} Average weighted undeflated prices received by farmers by region and in the United States for specific commodities, 1960-69, lagged 1 year. ^{3/} Minimum percentages of diversion required by law, 1966-68, except in the Southwest where maximum percentages were utilized.

Delta

The Delta States produce about 37 percent of U.S. cotton on about 30 percent of total acreage planted to cotton. Per unit returns are generally higher than in the Southwest, and Delta farmers in 1966-68 generally diverted only that acreage required by law. Soybeans provide the most competition in the Delta States, although in some areas (such as the Brown Loam region in Mississippi) corn may provide a better alternative than soybeans. In Southwestern Louisiana, returns from cotton (excluding government payments) may have recently fallen to the level of total variable costs for producing cotton on many farms, while relative returns from soybeans and soyghum have trended upward. In the region as a whole, soybean price was used to portray competition for cotton acreage, as Delta farmers planted over 13 million acres to soybeans last year.

The equation explained over 95 percent of the variation in cotton acreage planted in the Delta. The regression coefficients were significant at the 5-percent level with the expected signs. The equation shows that cotton and soybean prices have about the same elasticities--a 10-percent change in either elicits a 4-1/2 percent change in cotton acreage. The effect of cotton price is positive; that of soybeans is negative (table 6).

West

The West plants only about 10 percent of total U.S. cotton acreage. Returns to cotton are generally the highest in the United States, even though they have recently slipped somewhat, notably in Arizona. Barley or alfalfa may compete for cotton acreage above the domestic allotment. Alfalfa would be the best alternative to cotton in most areas, if water were plentiful. However, if water is scarce, or if agriculture must compete with industry for water, a shift may be made to barley, which requires less intensive irrigation. Therefore, barley price was used in the analysis.

The equation explained slightly over 90 percent of variation in cotton acreage planted in the West. The regression coefficients were significant at the 10-percent level with the expected signs, except for diversion which was not significant. This may reflect in part the fact that

Western farmers were allowed to grow cotton for export in 1966-68, partly on acreage which would otherwise have been diverted, which may have partially nullified the effect of diversion requirements. The analysis indicates that a 10-percent change in cotton price causes acreage to move 4 percent in the same direction, while a 10-percent change in barley price elicits a 17-percent change in cotton acreage in the opposite direction (table 6).

Southeast

Acreage in the Southeast has trended downward over the past decade; it is now near the domestic allotment. About 10 percent of U.S. cotton is produced in this region on about 13 percent of total planted acreage. Peanuts and tobacco are probably the best crops in the area from the standpoint of returns, but since they are strictly controlled by allotments, their effect on cotton acreage is negligible. Thus, soybeans compete with cotton for land. Net returns from cotton (including government payments) are near net returns from soybeans on many farms. Thus cotton acreage in the Southeast is very sensitive to price. Required diversion, however, had little effect, as few Southeastern farmers have recently planted their total allotment. Thus diversion was omitted from the Southeast equation.

The equation explained almost 90 percent of variation in cotton acreage planted in the Southeast. The regression coefficients for cotton and soybean prices were significant at the 1- and 10-percent levels, respectively, with the expected signs. The equation implies that cotton price has the most significant effect on cotton acreage in the Southeast. A 10-percent change in cotton price elicits a 13-percent change in acreage while a 10-percent change in soybean price causes an inverse change of 7 percent in cotton acreage (table 6).

The cotton price elasticity seems a little high. This has been occasioned by history. As the cost-returns relation between cotton planted above the domestic allotment has narrowed in response to falling cotton price and rising costs, acreage has trended toward the domestic allotment. The statistical fits of the acreage equations are shown in figure 2.

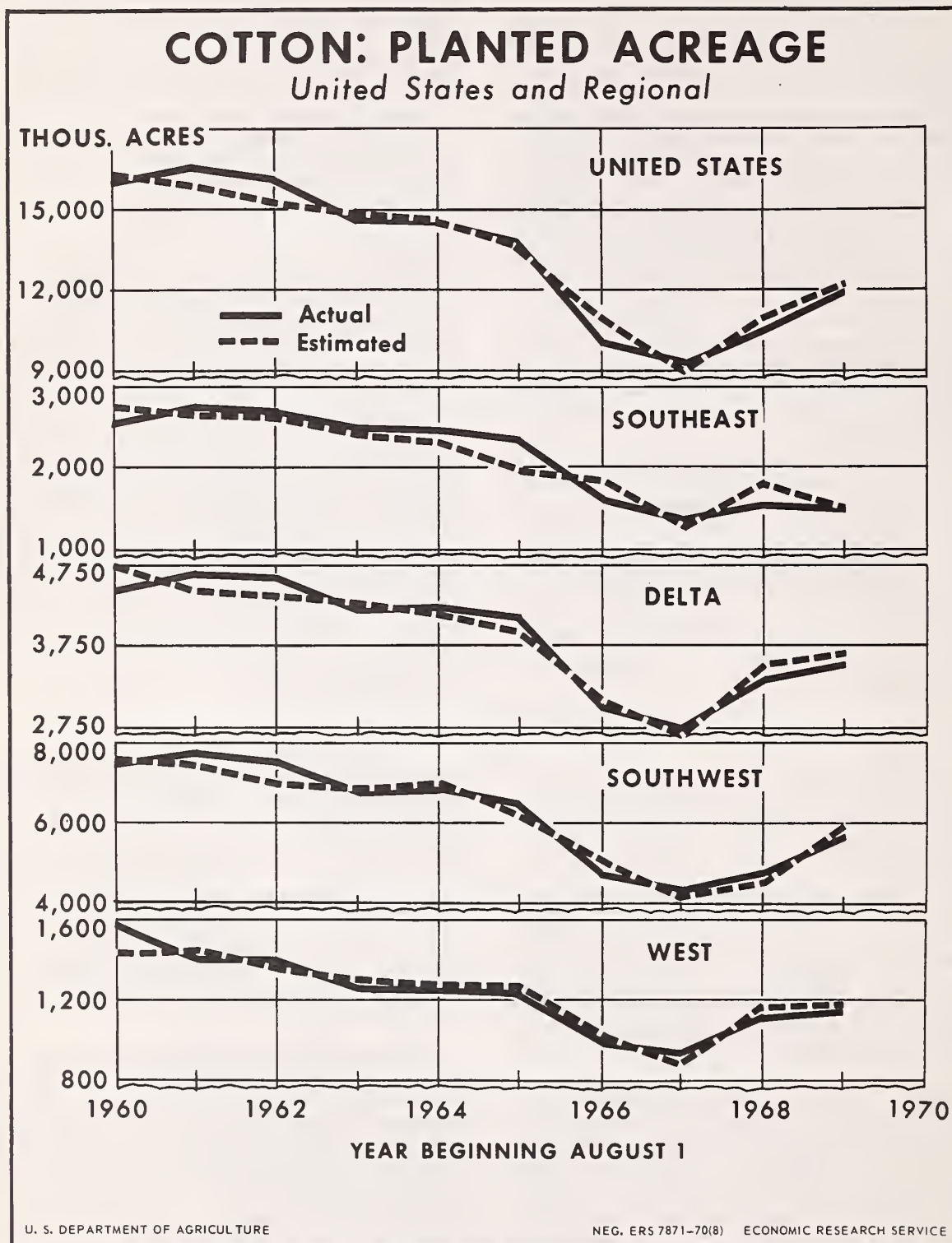


Figure 2

IMPLICATIONS FOR COTTON PRODUCTION

The yield model implies little or no uptrend in aggregate yields during the next several years. However, assuming normal growing conditions in 1970 and in subsequent years, yields should be up moderately from 1969. Among the regions, Southwestern yields recently have trended upward at a rate of 8 to 12 pounds per year. This trend may continue, given ample water supplies at reasonable cost. Delta yields have shown little trend, and may remain near or slightly above present levels. However, if selected pesticides and herbicides are restricted, yields could decline slightly as cost-returns relationships narrow. In the West, little trend in yields is evident and any future uptrend could be dampened by factors such as water limitations and selective pesticide restrictions. If cotton prices fall in relation to prices for alternative enterprises, or if skip-row plantings decrease, yields may decline in each of these regions.

Based on projections from the acreage analysis, plantings in the early 1970's should be slightly above the 1969 level. The Delta States and the Southwest may register initial acreage increases, while plantings in the Southeast and West may fall a little. Total U.S. planted acreage depends largely on cotton prices; the model shows about a 700,000-acre change in acreage in response to a 10-percent change in cotton price. ^{17/}

^{17/} More specific predictions are prohibited by P.L. 90-463 Section 504, which invokes

Consequently, when yields are combined with acreage projections, 1970 cotton production is estimated to be a little over 1 million bales above 1969. During the early 1970's, the models imply production may tend to stabilize a little below the indicated 1970 level, assuming a continuation of present programs.

While the above type analysis is not directly applicable to alternative programs, some inferences may be drawn on possible trends. If program modifications were made, such as the elimination of acreage allotments and marketing quotas, cotton acreage probably would increase. Also, if price support payments were made on the basis of actual rather than projected yields, farmers might increase yield-augmenting inputs. On the other hand, a decline in skip-row planting would tend to dampen any yield uptrend, while an increase in skip-row planting would tend to push yields up. So, with a moderate expansion in acreage, uncertain skip-row rules, and somewhat higher yields than the 1969 level of 433 pounds per acre, production might be expected to exceed the 1969 level of around 10 million bales by 2 to 3 million.

sanctions against USDA personnel who in any way forecast cotton prices or indicate their future trends.

Table 4.—Cotton: Supply and distribution, by types, United States, 1955 to date

Year beginning August 1	Supply						Distribution			
	Carryover August 1	Ginnings		Net imports (total less re-exports)	City crop	Total	Mill Consumption	Net exports (total less re-imports) 1/	Total	
		Current crop less ginnings prior to August 1 of current season	New crop prior to Aug. 1 end of season							
1,000 bales 2/										
All kinds										
1955	11,205.4	14,228.1	404.8	136.6	47.0	26,021.9	3/9,209.6	2,214.7	11,424.3	
1956	14,528.8	12,746.4	230.8	136.4	50.0	27,692.4	3/8,608.4	7,597.7	16,206.0	
1957	11,322.6	10,649.6	212.6	141.2	58.0	22,384.0	3/7,999.2	5,716.8	13,716.0	
1958	8,737.0	11,222.8	150.5	136.5	51.0	20,297.8	3/8,702.8	2,789.5	11,492.3	
1959	8,884.9	14,364.6	139.8	130.7	50.0	23,570.0	9,016.7	7,182.4	16,199.1	
1960	7,558.7	14,125.2	227.7	4/127.2	63.0	22,101.8	3/8,279.3	6,632.4	14,911.7	
1961	7,227.8	14,096.8	287.4	4/152.4	64.0	21,828.5	3/8,953.8	4,912.9	13,866.7	
1962	7,831.4	14,576.8	244.7	136.6	68.0	22,857.5	3/8,418.9	3,350.9	11,769.8	
1963	11,215.6	15,045.3	152.1	5/134.8	102.0	26,649.8	3/8,608.7	5,662.4	14,271.1	
1964	12,378.3	14,996.9	180.1	5/118.2	70.0	27,743.5	9,170.9	4,059.6	13,230.5	
1965	14,290.6	14,752.8	9.9	5/118.4	87.6	29,259.3	9,496.8	2,942.1	12,438.9	
1966	16,862.5	9,552.5	265.5	5/104.6	50.0	26,826.1	3/9,484.9	4,668.8	14,153.7	
1967	12,533.3	7,182.1	6.1	5/149.1	30.0	19,900.6	3/8,981.5	4,205.6	13,187.1	
1968	6,448.3	10,910.5	79.8	5/67.6	40.0	17,446.2	3/8,242.2	2,731.4	10,973.6	
1969	6,520.8	9,863.7	6.0	51.3	40.0	16,481.8	3/7,994.8	2,768.2	10,763.0	
1970 8/	5,735.7	9/10,999.2	---	60.0	40.0	16,834.9				
Other than extra-long staple										
1955	11,028.5	14,186.6	404.8	50.7	47.0	25,717.6	3/9,084.7	2,194.4	11,279.1	
1956	14,399.0	12,697.3	230.8	43.3	50.0	27,420.4	3/8,496.2	7,539.8	16,036.0	
1957	11,269.3	10,569.9	212.6	96.6	58.0	22,206.4	3/7,899.8	5,707.1	13,606.8	
1958	8,615.3	11,140.9	150.5	51.0	51.0	20,008.7	3/8,593.7	2,766.0	11,359.6	
1959	8,732.6	14,295.5	139.8	47.5	50.0	23,265.4	8,879.4	7,178.2	16,057.6	
1960	7,404.3	14,059.2	277.7	4/41.5	63.0	21,795.7	3/8,131.2	6,625.0	14,756.3	
1961	7,089.5	14,035.8	287.4	4/68.2	64.0	21,544.9	3/8,783.2	4,905.8	13,689.0	
1962	7,741.0	14,467.0	244.7	54.5	68.0	22,575.2	3/8,258.3	3,348.2	11,606.5	
1963	11,016.0	14,884.1	152.1	5/54.4	102.0	26,208.6	3/8,468.0	5,660.8	14,128.8	
1964	12,125.1	14,880.2	180.1	5/35.5	70.0	27,290.9	9,018.6	4,038.4	13,097.0	
1965	14,031.3	14,667.2	9.9	5/30.8	87.6	28,826.8	9,355.9	2,936.4	12,292.3	
1966	16,574.0	9,481.3	256.5	5/28.9	50.0	26,390.7	3/9,349.9	4,655.9	14,005.8	
1967	12,279.5	7,113.8	6.1	5/57.6	30.0	19,487.0	3/8,854.0	4,161.3	13,015.3	
1968	6,257.6	10,832.3	79.8	5/37.9	40.0	17,247.6	3/8,115.9	2,722.9	10,838.8	
1969	6,365.5	9,786.9	6.0	30.3	40.0	16,228.8	3/7,883.5	2,753.3	10,636.8	
1970 8/	5,626.6	9/10,921.1	---	30.0	40.0	16,617.7				
Long staple (other than upland) 6/										
1955	176.9	41.5	---	85.9	---	304.3	3/124.9	20.3	145.2	
1956	129.8	49.1	---	93.1	---	272.0	3/112.2	57.9	170.1	
1957	53.3	79.7	---	44.6	---	177.6	3/99.4	9.7	109.1	
1958	121.7	81.9	---	85.5	---	289.1	3/109.1	23.5	132.6	
1959	152.3	69.1	---	83.2	---	304.6	137.3	4.2	141.5	
1960	154.4	66.0	---	85.7	---	306.1	3/148.1	7.4	155.4	
1961	138.3	61.0	---	84.2	---	283.6	3/170.6	7.1	177.7	
1962	7/90.4	109.8	---	82.1	---	282.3	3/160.6	2.7	163.3	
1963	7/199.6	161.2	---	5/80.4	---	441.2	3/140.7	1.6	142.3	
1964	7/253.2	116.7	---	5/82.7	---	452.6	152.3	21.2	173.5	
1965	7/259.3	85.6	---	5/87.6	---	432.5	140.9	5.7	146.6	
1966	7/288.5	71.2	---	5/75.7	---	435.4	3/135.0	12.9	147.9	
1967	7/253.8	68.3	---	5/10/91.5	---	413.6	3/127.5	44.3	171.8	
1968	190.7	78.2	---	5/29.7	---	298.6	3/126.3	8.5	134.8	
1969	155.3	76.8	---	21.0	---	253.1	3/111.3	14.9	126.2	
1970 8/	109.1	9/78.1	---	30.0	---	217.2				

1/ Beginning 1956, re-exports no longer published.

2/ Running bales except "net imports" which are in bales of 500 pounds, gross weight.

3/ Adjusted to cotton marketing year basis, August 1-July 31.

4/ Does not include picker laps reported as raw cotton by the Bureau of the Census.

5/ Imports for consumption.

6/ Includes American-Egyptian, Sea Island, and foreign-grown cotton. In some years prior to 1962, small amounts of foreign-grown long-staple upland cotton are included.

7/ Foreign stockpile cotton included by the Bureau of the Census as of August 1 was 7,168 bales in 1962, 61,168 bales in 1963, 27,474 bales in 1964, 18,307 bales in 1965, and 33,284 in 1966.

8/ Preliminary and estimated.

9/ Crop Reporting Board report of August 10, 1970.

10/ Imports exceed quota of 85,600 bales, in part, because import data are not adjusted to August 1-July 31 marketing year. Also, may include 6,000 or more bales of cotton stapling less than 1-3/8 inches.

Bureau of the Census.

Table 5.--Cotton: Acreage, production, and yield, by States, 1964-68 average, 1969, and 1970 forecast with comparisons

State	Harvested acres				Lint yield per harvested acre				Production			
	Average 1964-68	1969	1970 1/	Change from 1969	Average 1964-68	1969	1970 1/	Change from 1969	Average 1964-68	1969	1970 1/	Change from 1969
	--- 1,000 acres ---	---	---	Percent	--- Pounds ---	---	---	Percent	--- 1,000 bales 2/ ---	---	---	Percent
North Carolina	234	166	165	-0.6	327	287	335	+16.7	171	100	115	+15.0
South Carolina	372	287	300	+4.5	445	342	368	+7.6	353	205	230	+12.2
Georgia	423	385	380	-1.3	412	351	385	+9.7	398	282	305	+8.2
Tennessee	392	400	395	-1.3	491	505	498	-13.9	428	422	410	-2.8
Alabama	614	545	550	+9	411	405	428	+5.7	560	461	490	+6.3
Missouri	230	305	225	-26.2	468	511	448	-12.3	243	326	210	-35.6
Mississippi	1,176	1,185	1,180	-.4	658	537	677	+26.1	1,637	1,328	1,665	+25.4
Arkansas	1,001	1,055	1,090	+3.3	486	518	524	+1.2	1,058	1,140	1,190	+4.4
Louisiana	423	420	450	+7.1	589	551	629	+14.2	515	483	590	+22.2
Oklahoma	452	465	450	-3.2	282	288	251	-12.8	266	279	235	-15.8
Texas	4,572	4,675	5,027	+7.5	384	294	349	+18.7	3,653	2,862	3,653	+27.6
New Mexico	153	146	140	-4.1	627	517	560	+8.3	201	157	164	+4.5
Arizona	302	310	274	-11.6	1,035	979	1,012	+3.4	658	634	577	-9.0
California	672	705	675	-4.3	1,029	893	871	-2.5	1,458	1,315	1,226	-6.8
Other States 3/	60	26	23	-11.5	404	390	406	+4.1	28	21	19	-9.5
U.S.	11,076	11,075	11,324	+2.2	497	433	470	+8.5	11,627	10,015	11,079	+10.6
American Pima	78.7	75.3	75.8	+7	523	493	505	+2.4	86.0	77.7	79.7	+2.6

1/ August 1 estimate. 2/ Bales of 500 pounds gross weight. A 500-pound bale contains about 480 pounds of lint. 3/ Includes Virginia, Florida, Illinois, Kentucky, Kansas, and Nevada. 4/ Included in State and United States totals.

Crop Reporting Board, report of August 8, 1970.

Table 6 .--Cotton: Acreage planted, by States,
average 1964-68, annual 1969, indicated
1970 and 1970 as a percent of 1969

States	Planted acres			
	1964-68 average	1969	1970 <u>1/</u>	1970 as a percent of 1969
	----- 1,000 acres ----- Percent -			
North Carolina	283	184	175	95
South Carolina	413	350	355	101
Georgia	477	410	405	99
Tennessee	429	420	425	101
Alabama	667	566	570	101
Missouri	303	325	310	95
Mississippi	1,222	1,225	1,240	101
Arkansas	1,066	1,090	1,120	103
Louisiana	438	440	460	105
Oklahoma	498	500	510	102
Texas	4,950	5,175	5,428	105
New Mexico	162	163	156	96
Arizona	305	311	278	89
California	685	710	680	96
Other States <u>2/</u>	41	29	26	90
United States	11,939	11,898	12,138	102
American Pima <u>3/</u>				
Texas	28.9	27.5	27.5	100
New Mexico	16.4	16.0	16.0	100
Arizona	35.0	33.6	33.0	98
California	0.6	.5	.5	100
Total American Pima	80.9	77.6	77.0	99

1/ Crop Reporting Board Report of July 8, 1970.

2/ Virginia, Florida, Illinois, Kentucky, and Nevada.

3/ Included in State and United States totals.

Compiled from reports of the Crop Reporting Board.

Table 7 --Textile fabrics: Deliveries to U.S. military forces, raw fiber content, by major fiber, by months 1968 to date

Year and month	Cotton				Wool				Man-made										Total all fibers		
									Cellulosic				Non-cellulosic				Total			Glass	
	Cotton and man-made mixtures		Cotton: and other fiber mix- tures		Wool and man-made fiber mixtures		Wool: and other fiber mix- tures		Fila- ment yarn		Staple fiber		Fila- ment yarn		Staple fiber		Total				
	100 per- cent cotton fabric	50 per- cent or more cotton	Less than 50 per- cent cotton	Total	100 per- cent cotton fabric	50 per- cent or more wool	Less than 50 per- cent wool	Total	Fila- ment yarn	Staple fiber	Total	Fila- ment yarn	Staple fiber	Total	Fila- ment yarn	Staple fiber		Total			
1,000 pounds																					
1968																					
January	10,072	1,405	110	0	11,587	1,170	0	252	0	1,422	217	5	222	279	858	1,137	497	862	1,359	0	14,368
February	9,006	1,736	173	0	10,915	764	0	180	0	944	264	6	270	165	1,208	1,373	429	1,214	1,643	1	13,503
March	7,954	1,197	249	0	9,400	739	0	86	0	855	162	0	162	170	1,660	1,230	332	1,060	1,392	1	11,618
April	6,023	889	116	0	7,028	417	0	25	0	442	91	-34	57	208	611	813	293	577	870	2	8,342
May	5,941	1,212	166	0	7,319	242	0	39	0	281	124	0	124	208	1,025	1,233	332	1,025	1,357	12	9,969
June	7,112	1,164	103	0	8,379	267	0	0	0	267	167	0	167	426	702	1,233	593	702	1,295	9	9,950
July	7,351	731	97	0	8,179	391	0	0	0	391	91	0	91	537	646	1,183	628	646	1,274	6	9,659
August	3,635	404	41	0	4,080	223	0	2	0	225	67	0	67	514	323	837	581	323	1,154	1	5,209
September	7,185	695	72	0	7,882	357	0	0	0	357	62	0	62	815	478	1,393	978	478	1,452	25	10,258
October	7,614	944	34	0	8,592	186	0	0	0	186	181	0	181	797	447	1,244	978	447	1,425	9	10,541
November	5,757	317	201	0	6,305	562	0	0	0	562	16	0	16	679	470	1,149	695	470	1,165	0	10,459
December	8,074	324	93	0	8,491	578	0	3	0	581	0	0	0	1,021	366	1,387	1,021	366	1,387	0	10,459
Total	15,724	10,978	1,455	0	24,157	6,156	0	587	0	6,743	1,442	-23	1,119	5,813	8,294	14,107	7,256	8,270	15,585	55	120,172
1969																					
January	4,365	195	48	0	4,608	239	0	0	0	239	0	0	0	1,278	166	1,444	1,278	166	1,444	41	6,332
February	6,028	249	67	0	6,344	312	0	14	0	326	0	0	0	689	241	930	689	241	930	0	7,607
March	7,366	66	82	0	7,514	487	0	10	0	497	1	0	1	1,105	126	1,231	1,106	126	1,232	24	9,267
April	6,639	117	80	0	6,836	368	0	17	0	385	0	0	0	987	179	1,166	987	179	1,166	64	8,354
May	8,299	57	59	0	8,415	183	0	65	0	248	0	0	0	491	171	662	491	171	662	-1	9,341
June	7,016	180	80	0	7,276	121	0	86	0	207	1	0	1	1,031	391	1,422	1,032	391	1,423	1	8,907
July	2,884	26	73	0	2,983	204	0	49	0	253	0	0	0	509	201	710	509	201	710	15	3,961
August	2,210	44	42	0	2,296	448	0	7	0	455	0	0	0	393	90	483	393	90	483	16	3,250
September	2,109	37	38	0	2,184	792	0	17	0	809	0	0	0	370	92	462	370	92	462	3	3,458
October	3,285	255	70	0	3,610	1,064	0	34	0	1,098	15	0	15	450	344	794	465	344	809	2	5,519
November	3,409	351	105	0	3,865	1,062	0	34	0	1,096	2	2	2	448	460	908	450	460	912	6	5,879
December	4,223	375	127	0	4,725	1,646	0	34	0	1,680	2	0	2	630	496	1,126	632	496	1,128	20	7,553
Total	57,531	1,452	571	0	60,556	6,926	0	207	0	7,293	21	2	23	3,361	2,257	11,134	5,142	2,257	11,361	191	79,501
1970																					
January	4,739	323	156	0	5,218	1,591	0	233	0	1,824	1	0	1	841	728	1,569	842	728	1,570	5	8,617
February	4,846	356	46	0	5,248	985	0	182	0	1,168	41	5	46	645	600	1,245	686	600	1,291	1	7,708
March	4,063	222	100	0	4,385	1,131	0	177	0	1,308	0	18	18	639	594	1,233	639	594	1,251	10	6,954
April	2,870	224	70	0	3,161	998	0	296	0	1,294	8	5	13	594	750	1,344	602	750	1,357	3	4,618
May	2,710	287	32	0	3,029	588	0	111	0	699	0	2	2	208	514	722	208	516	724	3	4,452
June	2,270	273	37	0	2,580	695	5	141	0	801	0	1	1	240	530	770	240	531	771	0	4,152
July																					
August																					
September																					
October																					
November																					
December																					
Total																					

Based on data from the Defense Supply Agency, Department of Defense.

Table 8. --Cotton and man-made fiber fabrics: Deliveries to U.S. military forces, in equivalent square yards of fabric, by months, 1967 to date

Fiber and fabric	1969												1970													
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
COTTON																										
- Thousand square yards -																										
Airplane cloth	0	13	8	10	12	2	0	0	0	11	1	0	0	57	4	0	12	9	0	1						
Artificial leather	0	7	15	0	0	0	0	0	0	0	0	26	53	0	0	0	0	0	0	0						
Balloon cloth	169	213	46	153	158	0	0	0	343	0	24	119	1,425	1,016	236	742	-39	185	118							
Bedspread	18	27	48	22	18	20	0	0	0	0	19	1	20	193	18	0	0	9	37	30						
Broadcloth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bunting	0	0	0	55	10	0	0	4	11	18	59	19	176	0	17	0	0	0	0	3						
Chambray	15	0	0	0	0	0	0	0	34	0	25	0	74	0	11	0	0	38	0	0						
Chesecloth	205	73	167	119	179	105	102	128	67	69	118	121	1,453	131	122	80	157	136	233							
Denmark	9	16	8	19	12	13	5	5	40	34	14	7	182	24	8	10	4	9	23							
Draill	32	0	0	0	0	0	0	0	0	0	0	0	22	0	0	102	0	0	0	0						
Duck	1,597	1,091	1,033	879	1,692	1,571	296	41	172	287	834	571	10,064	808	937	1,020	581	945	435							
Flannel	0	6	7	0	0	0	0	25	0	0	0	0	38	12	0	0	0	0	0	0						
Muslin	0	0	23	0	0	0	0	0	0	0	0	0	46	0	8	0	3	14	1	0						
Osnaburg	147	131	194	173	0	159	100	112	310	335	149	294	2,104	191	160	232	236	107	264							
Oxford	167	96	0	125	-3	220	157	74	313	338	527	220	2,234	373	345	339	168	611	462							
Poplin	3,753	5,447	7,812	6,552	7,457	8,693	4,550	3,629	2,434	3,134	1,797	2,186	57,444	1,443	1,231	312	130	150	1							
Sateen (satin)	49	2,668	3,638	3,096	4,520	513	224	155	248	709	957	2,463	19,240	2,678	3,756	2,537	1,716	1,133	843							
Sheeting (sheet)	641	1,418	403	533	352	319	293	34	286	489	192	484	5,444	688	681	1,269	1,281	1,012	1,701							
Terry and toweling	227	290	260	406	137	366	188	268	213	216	188	292	3,051	448	322	334	442	268	301							
Tickling	4	7	2	0	1	12	0	0	0	0	0	0	26	0	0	0	0	0	0	0						
Twill	518	103	219	120	60	0	0	0	67	210	191	36	1,524	119	16	23	37	0	31							
Other broadwoven fabrics	3	3	13	4	13	61	9	2	1	0	33	50	192	51	47	45	49	3	3							
Webbing	56	30	44	27	54	53	20	25	57	133	135	110	744	168	73	87	35	9	10							
Knit	63	18	8	76	2	2	6	39	0	52	1	0	267	0	31	44	57	0	22							
Total cotton	11,657	13,948	12,392	14,677	12,109	5,950	4,541	4,264	6,412	5,471	6,997	106,091	8,178	8,001	7,188	4,879	4,690	4,488								
MAN-MADE																										
Cellulosic																										
Broadwoven fabrics	0	0	0	1	0	2	0	0	0	0	62	1	7	76	2	193	71	14	9	1						
Webbing	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0						
Non-cellulosic																										
Ballistic	1,219	570	1,066	850	469	1,074	542	406	372	381	378	529	7,856	753	666	590	559	195	151							
Banner Cloth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bunting	43	0	14	2	7	2	0	0	3	11	13	5	100	8	7	0	1	0	0	0						
Curtain cloth	15	0	4	0	9	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0						
Duck	22	13	0	81	52	17	0	0	0	73	43	126	427	85	24	92	74	0	156							
Netting	336	334	0	0	0	0	0	0	0	195	0	0	865	0	0	0	0	0	0	0						
Oxford	298	306	353	301	0	6	0	0	0	0	7	3	1,264	3	6	27	16	19	0	0						
Parachute cloth	11	0	0	0	0	3	0	8	9	0	0	0	41	0	0	0	0	0	0	0						
Pressing cloth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sateen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Twill	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	175	68							
Other broadwoven fabrics	14	43	25	24	22	64	34	19	0	22	14	20	308	44	13	86	43	14	11							
Webbing	15	13	9	22	5	10	3	8	10	7	9	9	120	20	5	9	9	6	3							
Knit cloth	0	0	87	0	0	0	0	0	0	0	0	0	87	0	0	0	0	0	0	0						
Total non-cellulosic	1,773	1,286	1,554	1,284	555	1,185	579	441	394	696	813	850	11,610	1,203	847	1,064	843	409	389							
Glass	53	0	31	21	-11	7	26	25	9	11	15	38	225	15	1	16	11	3	0							
Total man-made	2,026	1,286	1,588	1,306	544	1,194	605	466	404	769	829	895	11,912	1,220	1,041	1,151	868	421	390							

1/ Less than 500 square yards.

Based on data from the Defense Supply Agency, Department of Defense.

Table 9 --Wool and fiber mixture fabrics: Deliveries to U.S. military forces, in equivalent square yards of fabric, by months, 1967 to date

Fiber and fabric	1969												1970														
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	
- Thousand square yards -																											
WOOL																											
Blanketing	70	41	130	145	39	45	0	0	0	124	311	1,010	1,915	876	503	513	245	118	81								
Flannel	54	0	30	14	0	0	0	0	0	6	14	0	118	0	5	2	0	0	0								
Frieze	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Gabardine	0	31	29	0	0	0	0	65	267	374	265	365	1,396	165	92	195	539	446	169								
Kersey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Melton	129	274	364	269	122	73	67	39	89	165	218	174	1,983	176	176	210	137	96	122								
Pile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Serge	82	43	116	74	80	61	242	600	888	933	711	611	4,441	895	544	669	554	243	614								
Tropical	0	39	0	27	0	0	0	0	5	11	0	0	82	0	0	0	0	0	0								
Other	0	5	7	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0								
Total wool	335	433	676	529	241	179	309	704	1,249	1,613	1,519	2,160	9,947	2,112	1,320	1,589	1,475	903	906								
MIXED FIBER																											
Cotton and wool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Cotton and cellulosic	1	0	0	0	0	0	0	0	0	0	6	0	7	0	0	0	0	0	0								
Cotton and non-cellulosic	985	1,199	896	1,216	682	1,300	1,008	665	537	1,299	1,764	2,089	13,640	2,249	1,564	1,546	1,511	1,423	1,611								
Cotton and glass	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Cotton and other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Wool and cellulosic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Wool and non-cellulosic	0	66	50	81	298	390	323	33	112	225	223	192	1,993	1,289	978	1,010	1,764	673	868								
Wool and other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Cotton, wool, and cellulosic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Cotton, wool, and non-cellulosic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Cellulosic and non-cellulosic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Other	0	0	0	0	0	0	0	0	1	0	20	0	21	0	0	0	0	0	0								
Total mixed fiber	986	1,265	946	1,297	980	1,690	1,331	698	650	1,524	2,013	2,281	15,661	3,538	2,512	2,556	3,301	2,097	2,486								
COTTON AND NON-CELLULOSIC																											
Broadcloth	79	20	424	565	277	604	829	509	336	158	212	236	4,339	338	128	425	505	137	361								
Duck	0	0	0	64	17	268	0	0	0	0	0	0	325	0	0	0	0	0	0								
Oxford	301	262	177	297	185	109	91	114	55	0	338	150	2,079	460	223	201	0	0	0								
Poplin	34	57	0	0	0	0	0	0	0	0	78	279	448	517	298	153	494	560	736								
Sateen	331	483	0	0	0	0	0	0	68	822	703	847	3,254	206	684	433	348	562	399								
Twill	0	198	101	0	89	0	0	0	0	73	276	261	998	350	0	255	71	56	10								
Tropical	269	86	175	201	104	155	88	39	78	247	152	285	1,879	343	228	80	90	0	0								
Cord	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Other broadwoven fabrics	0	0	14	89	34	71	0	0	0	0	0	27	298	40	0	0	0	0	0								
Webbing	0	0	4	0	2	3	0	3	0	0	4	1	22	4	4	0	3	0	0								
Total cotton and non-cellulosic	987	1,199	895	1,216	684	1,300	1,008	665	537	1,300	1,763	2,088	13,642	2,248	1,565	1,547	1,511	1,422	1,612								

Based on data from the Defense Supply Agency, Department of Defense.

Table 10.--Upland cotton: Daily rate of mill consumption, unadjusted and seasonally adjusted, August 1967 to date

Month	1967/68		1968/69		1969/70 <u>1/</u>	
	Unad-justed	Adjusted	Unad-justed	Adjusted	Unad-justed	Adjusted
	<u>Bales <u>2/</u></u>					
August	35,598	34,730	32,700	31,965	30,997	30,330
September	33,570	33,671	31,662	31,757	31,255	31,318
October	36,725	35,552	31,997	30,975	31,913	30,923
November	35,421	34,323	32,382	31,408	31,851	30,893
December	32,530	35,168	28,394	30,630	28,314	31,544
January	34,705	33,760	31,731	30,867	31,355	30,501
February	35,902	34,654	31,848	30,712	30,874	29,772
March	35,554	34,088	32,646	31,240	30,724	29,373
April	33,079	32,687	31,243	30,934	30,330	30,059
May	34,035	32,916	32,393	31,328	30,022	29,035
June	33,559	33,096	31,721	31,252	28,817	28,363
July	26,373	32,084	25,581	31,158	26,505	32,323

1/ Preliminary.2/ Running bales.

Bureau of the Census, Current Industrial Reports, Series M22P Supplement, April 29, 1970, and subsequent monthly reports.

Table 11.--Man-made staple fiber: Daily rate of mill consumption on cotton-system spinning spindles, unadjusted and seasonally adjusted, August 1967 to date

Month	1967/68				1968/69				1969/70 <u>1/</u>			
	Rayon and acetate		Non-cellulosic <u>2/</u>		Rayon and acetate		Non-cellulosic <u>2/</u>		Rayon and acetate		Non-cellulosic <u>2/</u>	
	Unad-justed	Ad-justed	Unad-justed	Ad-justed	Unad-justed	Ad-justed	Unad-justed	Ad-justed	Unad-justed	Ad-justed	Unad-justed	Ad-justed
	<u>1,000 pounds</u>											
August	2,230	2,165	2,238	2,190	2,749	2,679	3,002	2,949	2,580	2,515	3,419	3,365
September	2,119	2,088	2,310	2,303	2,783	2,731	3,042	3,024	2,644	2,592	3,416	3,389
October	2,321	2,223	2,535	2,467	3,766	2,642	3,127	3,040	2,638	2,517	3,385	3,290
November	2,362	2,243	2,388	2,402	2,815	2,673	3,126	3,136	2,552	2,426	3,391	3,398
December	2,148	2,290	2,251	2,504	2,559	2,728	2,813	3,119	2,098	2,237	3,076	3,406
January	2,285	2,256	2,603	2,582	2,809	2,773	3,148	3,123	2,298	2,271	3,372	3,345
February	2,464	2,340	2,758	2,685	2,873	2,723	3,183	3,105	2,160	2,047	3,435	3,354
March	2,475	2,391	2,962	2,796	2,861	2,759	3,300	3,104	2,206	2,127	3,411	3,206
April	2,253	2,285	2,821	2,768	2,708	2,752	3,152	3,105	2,150	2,187	3,375	3,332
May	2,599	2,531	2,935	2,751	2,868	2,793	3,407	3,195	2,100	2,045	3,449	3,235
June	2,622	2,606	3,008	2,937	2,669	2,653	3,322	3,237	1,967	1,955	3,386	3,297
July	2,052	2,575	2,478	2,926	2,158	2,721	2,817	3,338	1,676	2,119	2,970	3,523

1/ Preliminary.2/ Includes nylon, acrylic and modacrylic, polyester, and other man-made staple fibers.

Bureau of the Census, Current Industrial Reports, M22P Supplement, April 29, 1970, and subsequent monthly reports.

Table 12.—Cotton: Exports by staple length and by countries of destination, United States, April, May, June, 1970, and cumulative totals since August 1, 1969

Country of destination	April 1970			May 1970			June 1970			Cumulative totals since August 1, 1969		
	1-1/8 inches and over 1/	Under 1 inch	Total	1-1/8 inches and over 1/	Under 1 inch	Total	1-1/8 inches and over 1/	Under 1 inch	Total	1-1/8 inches and over 1/	Under 1 inch	Total
Europe												
United Kingdom	125	9,330	287	9,742	300	2,975	411	3,686	200	3,432	300	3,932
Austria	550	2,098	125	2,773	167	1,000	0	1,167	450	662	200	1,312
Belgium and Luxembourg	0	962	0	962	0	0	0	0	0	0	0	0
Denmark	0	200	0	200	0	100	0	100	0	0	0	0
Ireland (Eire)	1,158	1,934	0	3,092	225	1,391	150	1,766	360	1,552	0	1,912
Finland	1,019	771	0	1,790	30	96	75	1,821	99	179	56	905
Germany (West)	0	2,933	950	3,883	345	1,575	700	2,620	607	1,716	0	2,323
Italy	640	1,150	0	1,790	575	325	0	900	668	93	0	761
Netherlands	0	0	0	0	0	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0	0	0	0	0	0
Portugal	571	0	0	571	270	0	0	270	0	0	0	0
Spain	0	1,839	512	2,351	0	1,104	349	1,453	0	383	0	383
Sweden	0	623	0	623	0	166	103	269	0	801	0	801
Switzerland	0	0	0	0	0	0	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0	0	0	0	0	0	0
Other	10,576	17,527	0	28,103	0	0	0	0	0	312	0	312
Total Europe	14,639	39,367	1,874	55,880	1,932	9,332	1,788	13,052	2,384	9,701	556	12,641
Other Countries												
Canada	125	10,016	8,315	18,456	750	11,209	6,793	18,752	604	12,010	7,029	19,643
Colombia	0	0	0	0	0	0	0	0	0	0	0	0
Chile	0	0	0	0	220	44	0	264	15,346	24,376	0	39,722
India	6	875	0	881	26,556	22,825	0	49,381	2,070	0	0	2,070
Pakistan	268	0	0	268	0	0	0	0	0	0	0	0
Indonesia	2,482	2,594	0	5,076	2,522	66,247	2,627	71,396	513	20,603	5,435	26,038
Korea	32,191	32,191	19,344	54,317	3,335	37,607	15,657	56,599	26,791	26,791	14,825	42,129
Hong Kong	2,433	2,433	0	4,866	0	254	1,265	1,519	0	687	6,472	7,159
Taiwan	710	11,225	20,169	32,104	104	7,562	11,657	19,323	206	3,469	11,295	14,970
Japan	1,117	23,829	49,191	74,137	734	19,099	28,571	48,104	535	19,050	26,477	46,062
Australia	0	0	0	0	0	0	0	0	0	0	0	0
Morocco	0	4,465	225	4,690	0	119	0	119	0	8,334	0	8,334
Republic of South Africa	0	15	0	15	0	0	0	0	0	0	500	500
Other	3,812	47,082	10,885	61,779	1,362	15,341	3,845	20,518	1,429	35,989	12,667	50,085
World Total	23,159	171,959	112,436	307,554	37,515	189,639	72,203	299,357	23,087	161,010	85,256	269,353
Cumulative totals since August 1, 1969												
United Kingdom	953	31,857	4,430	37,240	0	0	0	0	0	0	0	0
Austria	2,002	14,741	1,323	18,076	0	0	0	0	0	0	0	0
Belgium and Luxembourg	5	0	0	5	0	0	0	0	0	0	0	0
Denmark	0	1,079	0	1,079	0	0	0	0	0	0	0	0
Ireland (Eire)	0	1,658	1,738	3,396	0	0	0	0	0	0	0	0
Finland	5,497	24,160	925	30,182	0	0	0	0	0	0	0	0
Germany (West)	4,075	18,850	534	24,459	0	0	0	0	0	0	0	0
Italy	2,790	36,220	4,292	45,302	0	0	0	0	0	0	0	0
Netherlands	6,149	16,751	44	16,944	0	0	0	0	0	0	0	0
Norway	0	100	884	984	0	0	0	0	0	0	0	0
Portugal	0	0	1,640	1,640	0	0	0	0	0	0	0	0
Spain	3,777	26,163	163	30,103	0	0	0	0	0	0	0	0
Sweden	525	8,516	2,266	12,866	0	0	0	0	0	0	0	0
Switzerland	2,104	0	0	2,104	0	0	0	0	0	0	0	0
Yugoslavia	0	0	0	0	0	0	0	0	0	0	0	0
Other	19,788	75,846	3,246	98,880	0	0	0	0	0	0	0	0
Total Europe	47,675	256,121	30,422	334,218	0	0	0	0	0	0	0	0
Other Countries												
Canada	5,533	82,276	85,152	172,961	0	0	0	0	0	0	0	0
Colombia	0	0	0	0	0	0	0	0	0	0	0	0
Chile	683	66	46	795	0	0	0	0	0	0	0	0
India	112,250	95,061	100	207,411	0	0	0	0	0	0	0	0
Pakistan	10,927	0	95	11,022	0	0	0	0	0	0	0	0
Indonesia	4,071	197,492	14,647	216,210	0	0	0	0	0	0	0	0
Korea	16,288	233,642	174,920	421,850	0	0	0	0	0	0	0	0
Hong Kong	0	3,607	54,351	57,958	0	0	0	0	0	0	0	0
Taiwan	5,133	70,800	102,316	178,249	0	0	0	0	0	0	0	0
Japan	7,155	206,306	390,981	606,442	0	0	0	0	0	0	0	0
Australia	50	0	0	50	0	0	0	0	0	0	0	0
Morocco	22	24,562	225	24,809	0	0	0	0	0	0	0	0
Republic of South Africa	0	0	2,723	2,723	0	0	0	0	0	0	0	0
Other	17,557	259,650	70,184	347,391	0	0	0	0	0	0	0	0
World Total	227,344	1,431,883	923,162	2,582,389	0	0	0	0	0	0	0	0

1/ Includes American-Egyptian and Sea Island Cotton.

Bureau of the Census.

Table 13.—Commodity Credit Corporation stocks of cotton, United States, August 1, 1969 to date

		Upland				Extra-long staple <u>1/</u>			
Date	Total	Owned <u>2/</u>	Under loan	Total	Owned <u>3/</u>	Under loan	Total		
<u>1,000 bales</u>									
1969									
August 1	2,911	2,799	---	2,799	112	---	112		
August 8	2,911	2,799	---	2,799	112	---	112		
August 15	2,911	2,799	---	2,799	112	---	112		
August 22	2,911	2,799	6	2,805	106	---	106		
August 29	2,931	2,793	39	2,832	99	---	99		
September 5	2,936	2,786	56	2,842	94	---	94		
September 12	3,035	2,786	65	2,943	92	---	92		
September 19	2,938	2,775	72	2,847	91	---	91		
September 26	2,941	2,775	77	2,852	89	---	89		
October 3	2,881	2,700	94	2,794	87	---	87		
October 10	2,910	2,700	123	2,823	87	---	87		
October 17	2,939	2,653	200	2,853	86	---	86		
October 24	3,056	2,653	318	2,971	85	<u>4/</u>	85		
October 31	3,162	2,558	519	3,077	85	<u>4/</u>	85		
November 7	3,374	2,558	730	3,288	85	1	86		
November 14	3,422	2,333	1,004	3,337	83	2	85		
November 21	3,736	2,333	1,317	3,650	83	3	86		
November 28	3,859	2,237	1,534	3,771	83	5	88		
December 5	4,078	2,237	1,749	3,986	83	9	92		
December 12	4,215	2,142	1,982	4,124	82	9	91		
December 19	4,421	2,142	2,188	4,330	82	9	91		
December 26	4,509	2,112	2,306	4,418	81	10	91		
1970									
January 2	4,590	2,112	2,387	4,499	81	10	91		
January 9	4,998	2,105	2,799	4,904	78	16	94		
January 16	5,179	2,105	2,983	5,088	72	19	91		
January 23	5,229	2,101	3,035	5,136	71	22	93		
January 30	5,240	2,101	3,045	5,146	71	23	94		
February 6	5,236	2,086	3,055	5,141	71	24	95		
February 13	5,222	2,086	3,040	5,126	71	25	96		
February 20	5,158	2,063	2,997	5,060	71	27	98		
February 27	5,095	2,063	2,934	4,997	71	27	98		
March 6	5,049	2,045	2,905	4,950	71	28	99		
March 13	4,996	2,045	2,853	4,898	71	27	98		
March 20	4,885	2,019	2,769	4,788	71	26	97		
March 27	4,815	2,019	2,700	4,719	71	25	96		
April 3	4,742	1,999	2,647	4,646	71	25	96		
April 10	4,673	1,999	2,579	4,578	71	24	95		
April 17	4,606	1,994	2,517	4,511	72	23	95		
April 24	4,522	1,994	2,435	4,429	72	21	93		
May 1	4,434	1,980	2,362	4,342	72	20	92		
May 8	4,313	1,980	2,243	4,223	72	18	90		
May 15	4,215	1,968	2,158	4,126	72	17	89		
May 22	4,137	1,968	2,081	4,049	72	16	88		
May 29	4,045	1,954	2,003	3,957	72	16	88		
June 5	3,962	1,954	1,921	3,875	72	15	87		
June 12	3,817	1,928	1,803	3,731	72	14	86		
June 19	3,711	1,928	1,700	3,628	71	12	83		
June 26	3,624	1,906	1,638	3,544	71	9	80		
July 3	3,562	1,906	1,576	3,482	71	9	80		
July 10	3,472	1,895	1,498	3,393	71	8	79		
July 17	3,404	1,895	1,430	3,325	71	8	79		
July 24	3,316	1,895	1,343	3,238	71	7	78		
July 31 <u>5/</u>	3,037	1,895	1,069	3,011	71	2	73		

1/ Includes American-Egyptian and Sea Island. 2/ Excludes cotton sold September 9 to date for delivery in the 1969 marketing year. 3/ Includes American-Egyptian cotton transferred to CCC from the national stockpile.
4/ Less than 500 bales. 5/ Preliminary.

Agricultural Stabilization and Conservation Service.

Table 15.--Cotton: American Middling White, spot prices in designated U.S. markets, loan rates, and prices received by farmers for upland cotton, August 1966 to date

Year beginning August 1	Average spot market prices per pound 1/					Prices per pound received by farmers for upland cotton 2/
	15/16 inch	1 inch	1-1/32 inches	1-1/16 inches	1-3/32 inches	
Cents						
1966						
August	20.54	22.04	23.11	24.09	24.76	21.17
September	20.34	21.86	22.94	23.95	24.61	21.17
October	20.32	21.83	22.93	23.96	24.62	22.45
November	20.28	21.84	22.94	24.18	24.83	21.89
December	20.17	21.92	23.02	24.52	25.17	21.96
January	20.12	21.97	23.12	24.78	25.44	19.79
February	19.94	22.01	23.17	24.95	25.62	20.21
March	19.94	22.08	23.21	24.99	25.67	20.45
April	19.99	22.17	23.33	25.06	25.74	20.43
May	20.07	22.23	23.41	25.11	25.80	19.70
June	20.18	22.40	23.59	25.37	26.08	20.34
July	20.42	22.57	23.81	25.71	26.41	20.92
Average	20.20	22.08	23.22	24.72	25.40	3/20.64
Loan rates 4/	19.71	21.11	22.06	22.91	23.51	5/20.21
1967						
August	20.37	22.77	24.16	26.19	26.89	22.00
September	20.15	23.22	24.91	27.13	27.83	21.27
October	20.01	23.40	25.95	28.49	29.26	27.27
November	20.74	24.98	29.79	32.54	33.58	30.48
December	22.00	27.02	32.40	34.80	35.86	27.61
January	21.17	26.19	30.60	33.12	33.99	22.45
February	20.42	25.40	29.30	31.87	32.80	20.45
March	20.29	25.21	28.75	31.39	32.30	20.29
April	20.14	25.06	28.45	30.86	31.75	20.22
May	20.17	24.93	28.18	30.32	31.25	21.59
June	20.32	24.83	28.04	30.14	31.04	21.12
July	20.61	24.94	28.13	30.33	31.22	21.46
Average	20.53	24.83	28.22	30.60	31.48	3/25.39
Loan rates 4/	17.81	20.36	21.61	22.91	23.76	5/19.47
1968						
August	21.11	25.05	28.30	30.59	31.47	26.00
September	21.20	24.97	28.09	30.34	31.17	26.36
October	6/21.24	24.29	26.89	28.98	29.74	26.50
November	6/20.55	23.27	25.17	27.01	27.66	24.10
December	6/19.95	22.67	24.37	26.27	26.85	21.53
January	6/19.68	22.47	24.16	26.12	26.67	19.37
February	6/19.49	22.21	23.76	25.65	26.16	19.70
March	6/19.33	22.09	23.66	25.61	26.10	20.57
April	6/19.23	21.99	23.56	25.60	26.05	20.68
May	6/19.46	21.93	23.51	25.66	26.11	20.12
June	6/19.54	21.89	23.51	25.64	26.10	21.32
July	6/19.53	21.92	23.57	25.67	26.13	21.65
Average	20.03	22.90	24.88	26.93	27.52	3/22.02
Loan rates 4/	17.79	20.34	21.84	23.84	24.54	5/19.69
1969						
August	6/19.24	21.59	23.19	25.24	25.75	20.53
September	6/19.05	21.42	22.96	24.98	25.54	19.39
October	6/19.39	21.68	23.17	24.99	25.55	21.70
November	6/19.79	21.94	23.37	25.07	25.58	21.35
December	6/20.05	22.02	23.35	24.92	25.38	19.95
January	6/20.23	22.00	23.25	24.83	25.28	19.09
February	6/20.31	22.11	23.35	24.90	25.36	20.25
March	6/20.36	22.19	23.46	24.89	25.35	20.70
April	6/20.59	22.44	23.70	25.11	25.52	21.36
May	6/20.76	22.60	23.83	25.23	25.64	22.11
June	6/21.04	22.78	23.98	25.39	25.80	22.31
July	6/21.22	22.96	24.20	25.59	25.99	22.65
Average	20.17	22.14	23.48	25.10	25.56	
Loan rates 4/	17.89	20.34	21.94	23.94	24.64	5/19.71

1/ Prices exclude equalization payments which were eliminated August 1, 1966. 2/ Excludes domestic allotment payments, price support and diversion payments. 3/ Weighted average. 4/ Spot market loan rates exclude 14-point premium in 1965, 20-point premium in 1966, 30-point premium in 1967, 35-point premium in 1968, and 45-point premium in 1969 for 3.5-4.9 micronaire. Spot prices are for cotton with micronaire readings of 3.5 through 4.9. 5/ Average of the crop. 6/ Average of six markets.

Agricultural Stabilization and Conservation Service, Consumer and Marketing Service, and Statistical Reporting Service.

Table 16 --Cloth values, raw fiber prices, and mill margins for unfinished cotton carded yarn goods and blended fabric (polyester and cotton), August 1967 to date

Year and month	Cotton fabric 1/			Blended fabric 2/		
	Fabric values	Price of raw cotton 4/	Mill margins	Fabric values	Price of raw fibers 6/	Mill margins
	3/		5/	3/		5/
Cents						
1967						
August	63.87	26.64	37.23	102.47	49.80	52.67
September	63.90	27.26	36.64	105.81	50.09	55.72
October	63.91	28.16	35.75	113.18	50.50	62.68
November	65.27	31.84	33.43	119.03	52.18	66.85
December	67.50	35.14	32.36	123.65	54.33	69.32
January	67.71	33.99	33.72	125.50	53.58	71.92
February	67.64	32.28	35.36	126.54	53.00	73.54
March	67.29	31.16	36.13	118.65	52.68	65.97
April	67.32	30.55	36.77	115.67	52.42	63.25
May	67.43	30.13	37.30	115.97	52.12	63.85
June	67.70	29.97	37.73	114.78	51.94	62.84
July	68.08	30.02	38.06	115.65	51.96	63.69
Average	66.47	30.60	35.87	116.41	52.05	64.36
1968						
August	68.04	30.19	37.85	116.00	51.96	64.04
September	68.03	29.93	38.10	114.12	51.88	62.24
October	68.01	28.98	39.03	111.74	51.43	60.31
November	68.11	27.31	40.80	111.21	50.70	60.51
December	68.45	26.43	42.02	111.05	50.37	60.68
January	68.58	26.05	42.53	108.94	50.34	58.60
February	68.60	25.52	43.08	105.18	50.17	55.01
March	68.36	25.44	42.92	105.32	50.17	55.15
April	68.16	25.45	42.71	108.87	50.17	58.70
May	68.20	25.47	42.73	111.20	50.26	60.94
June	68.20	25.39	42.81	109.84	50.24	59.60
July	68.31	25.29	43.02	110.41	50.19	60.22
Average	68.25	26.79	41.46	110.32	50.66	59.66
1969						
August	68.62	25.11	43.51	110.07	50.04	60.03
September	68.79	24.76	44.03	109.46	49.94	59.52
October	68.81	24.75	44.06	110.18	49.82	60.36
November	68.84	24.88	43.96	110.50	49.79	60.71
December	68.87	24.95	43.92	110.76	49.74	61.02
January	68.90	24.98	43.92	110.86	49.75	61.11
February	68.88	25.02	43.86	110.22	49.79	60.43
March	68.85	25.06	43.79	7/	7/	7/
April	68.76	25.11	43.65			
May	68.58	25.17	43.41			
June	68.56	25.23	43.33			
July	68.46	25.35	43.11			
Average	68.74	25.03	43.71			

1/ Expanded construction series. 2/ 65 percent polyester-35 percent cotton (average of 3 constructions). 3/ The estimated value of fabric obtainable from a pound of raw fiber. 4/ Monthly average prices per pound for four territory growths, even running lots, prompt shipments, delivered at Group 201 (Group B) mill points including landing costs and brokerage. 5/ Difference between fabric values and fiber prices. 6/ Monthly average prices per pound for polyester and raw cotton delivered at mills. However, these prices (list) for polyester are reported to be higher than actual prices paid by mills because of discounting practices. 7/ Data series discontinued.

Consumer and Marketing Service.

- 1/ Includes gloves, hostery, underwear, outerwear, and hats.
- 2/ Includes veils and veillings, nets and nettings, lace window curtains, edgings, insertings, flouncings, allovers, etc., embroideries, and ornamented wearing apparel.
- 3/ Includes braids (except hat braids), fabrics with fast edges not over 12 inches wide, garters, suspenders, braces, tubings, cords, tassels, gill nets, webs, seines, and other nets for fishing.
- 4/ Not elsewhere classified.
- 5/ For annual data prior to 1965 and monthly data beginning July 1959, see Statistics on Cotton and Related Data, 1930-67, and Supplement.
- 6/ Preliminary.

Compiled from reports of the Bureau of the Census.

Table 20.--Man-made fiber equivalent of United States exports of domestic man-made fiber manufactures, 1965 to date

Year and month	Tops, yarn, thread, and cloth						Primarily manufactured products							Total manu- fac- tured exports		
	Silver tops and roving 1/	Yarns spun	Sewing thread and hand- work yarns	Tire cord and tire cord fabric	Cloth woven	Total	Hosiery	Under- wear and night- wear	Outer- wear	House- furnish- ings	Knit or crocheted fabrics	Narrow fabrics 2/	Other manu- factures 3/		Total	
								1,000 pounds								
1965 4/	4,809	2,451	364	24,982	62,739	95,345	766	2,462	4,169	4,521	5,252	2,535	14,006	33,711	129,056	
1966	6,384	1,481	528	26,742	66,379	101,514	888	2,456	4,209	6,418	5,754	3,299	15,438	38,462	139,976	
1967	4,500	2,141	465	16,460	67,758	91,324	1,146	1,978	4,831	8,766	6,796	4,080	14,057	41,654	132,978	
1968	5,042	2,872	540	9,794	65,372	83,620	1,303	2,111	6,316	10,406	6,683	4,543	14,012	45,374	128,994	
1969 5/	6,001	5,228	684	9,608	69,602	91,123	1,403	2,329	8,891	10,442	9,140	4,267	18,520	54,992	146,115	
1969 5/																
January	265	202	31	611	2,650	3,759	75	127	552	435	271	197	936	2,593	6,352	
February	369	342	43	655	3,986	5,395	75	132	684	536	247	238	1,172	3,084	8,479	
March	297	606	87	1,465	8,400	10,855	129	299	980	1,239	597	479	1,969	5,692	16,547	
April	513	519	80	1,402	7,177	9,691	170	205	902	1,000	676	392	1,922	5,267	14,958	
May	558	250	50	623	7,012	8,493	111	188	842	745	710	435	1,748	4,779	13,272	
June	563	374	51	503	5,698	7,189	162	143	716	812	756	338	2,194	5,121	12,310	
July	474	282	58	1,102	5,197	7,113	85	168	735	943	672	280	1,313	4,196	11,309	
August	872	496	66	862	6,312	8,608	105	235	753	1,172	798	439	2,101	5,603	14,211	
September	720	483	50	783	5,082	7,118	116	203	652	756	674	353	1,073	3,827	10,945	
October	424	495	64	846	6,855	8,684	123	261	813	1,003	1,215	409	1,701	5,525	14,209	
November	493	640	58	431	5,560	7,182	139	207	674	971	1,310	472	1,216	4,989	12,171	
December	453	539	46	325	5,673	7,036	113	161	588	830	1,214	235	1,175	4,316	11,352	
1970 5/																
January	623	553	87	739	4,832	6,834	110	159	571	1,184	1,069	313	1,580	4,986	11,820	
February	400	439	38	408	6,039	7,324	117	232	695	1,141	1,026	277	1,353	4,841	12,165	
March	503	544	81	651	6,604	8,383	120	168	773	1,077	1,108	341	1,453	5,040	13,423	
April	476	476	43	639	5,988	7,617	91	194	869	1,181	920	278	1,689	5,222	12,839	
May	431	528	161	684	5,790	7,594	58	193	819	957	926	428	1,531	4,912	12,506	
June	397	455	333	550	6,277	8,012	70	175	862	921	1,096	333	1,593	5,050	13,062	
July																
August																
September																
October																
November																
December																
1969 5/																
Jan.-June	2,565	2,293	342	5,259	34,923	45,382	722	1,094	4,676	4,767	3,257	2,079	9,941	26,536	71,918	
1970 5/																
Jan.-June	2,825	2,995	743	3,671	35,530	45,764	566	1,121	4,589	6,461	6,145	1,970	9,199	30,051	75,815	

1/ Includes products made from waste. 2/ Includes ribbons, trimmings, and braids (except hat braids). 3/ Not elsewhere classified. 4/ For annual data prior to 1964 and monthly data beginning July 1959, see Statistics on Cotton and Related Data, 1930-67, and Supplement. 5/ Preliminary.

Compiled from reports of the Bureau of the Census.

Table 2L.--Cotton linters: Supply and disappearance, United States, 1950 to date

Year beginning August 1	Supply			Disappearance				
	Stocks August 1	Production 1/	Net imports	Total	Consumption	Exports	Destroyed	Total
	1,000 bales 2/	1,000 bales 3/	1,000 bales 4/	1,000 bales	----- 1,000 bales 2/ -----			
1950	455	1,244	103	1,803	1,396	92	1	1,488
1951	264	1,767	113	2,144	1,306	226	2	1,534
1952	548	1,799	339	2,686	1,359	107	2	1,469
1953	1,111	2,003	164	3,278	1,324	237	2	1,563
1954	1,543	1,699	186	3,428	1,474	258	25	1,757
1955	1,491	1,703	204	3,398	1,789	396	---	2,185
1956	1,026	1,507	135	2,668	1,438	334	---	1,773
1957	824	1,256	139	2,219	1,102	185	---	1,287
1958	810	1,347	172	2,329	1,210	243	---	1,453
1959	543	1,665	164	2,373	1,446	329	---	1,775
1960	465	1,595	124	2,184	1,281	339	---	1,619
1961	468	1,639	183	2,290	1,338	250	---	1,588
1962	576	1,657	113	2,346	1,328	351	---	1,679
1963	550	1,607	164	2,322	1,358	322	---	1,680
1964	601	1,661	5/153	2,415	1,386	301	---	1,687
1965	671	1,581	5/193	2,444	1,453	283	---	1,736
1966	641	1,129	5/202	1,971	1,157	179	---	1,336
1967	637	898	5/131	1,666	1,091	176	---	1,267
1968	365	1,307	5/132	1,804	1,130	171	---	1,301
1969	432	1,176	155	1,763	1,129	186	---	1,315
1970 6/	344							

1/ Since 1941 includes production at gins and delinting plants. Beginning 1965, such data not available.

2/ Running bales. 3/ Running bales through September 1958; 600 pound equivalent gross weight bales thereafter.

4/ Bales of 500 pounds. 5/ Imports for consumption. 6/ Preliminary, partly estimated.

Bureau of the Census.

Table 22.--Prices for specified qualities of cotton linters,
by months, August 1967 to date 1/

Year and month	Felting grade						Chemical grade	
	Grade and staple <u>2/</u>						73 percent cellulose base	Cellulose differ- ential
	2	3	4	5	6	7		
- Cents per pound -								
1967								
August	9.00	8.44	7.75	7.19	6.75	6.25	5.00	3/
September	9.13	8.58	7.81	7.19	6.67	6.13	5.00	3/
October	9.13	8.67	7.81	7.19	6.67	6.13	5.00	3/
November	9.31	8.69	7.88	7.19	6.56	6.13	4.88	3/
December	9.50	8.88	8.06	7.44	6.58	6.25	4.63	3/
January	9.50	8.81	8.06	7.44	6.81	6.25	4.00	3/
February	9.50	8.81	8.06	7.44	6.81	6.38	4.00	3/
March	9.50	8.81	8.06	7.44	6.81	6.38	4.00	3/
April	9.50	8.81	7.94	7.31	6.63	5.75	4.00	3/
May	9.19	8.63	7.75	7.13	6.19	5.63	4.00	3/
June	9.13	8.56	7.75	7.19	6.44	5.63	4.00	3/
July	9.00	8.44	7.56	6.94	6.13	5.63	4.00	3/
Average	9.28	8.68	7.87	7.26	6.59	6.05	4.38	3/
1968								
August	8.81	8.25	7.44	6.81	6.00	5.63	3.50	3/
September	8.69	8.00	7.06	6.38	5.31	4.75	3.50	3/
October	8.75	7.88	6.94	6.19	5.19	4.75	3.50	3/
November	8.69	7.75	6.88	6.06	5.13	4.75	3.50	3/
December	8.69	7.75	6.88	6.06	5.06	4.75	3.50	3/
January	8.69	7.75	6.81	6.00	5.06	4.75	3.50	3/
February	8.63	7.69	6.75	5.94	5.00	4.75	3.50	3/
March	8.31	7.50	6.56	5.75	4.81	4.75	3.50	3/
April	8.25	7.44	6.50	5.69	4.75	4.75	3.50	3/
May	7.81	7.00	6.06	5.50	4.56	4.50	3.50	3/
June	7.56	6.88	5.81	5.19	4.38	4.00	3.44	3/
July	7.19	6.63	5.63	5.00	4.19	4.00	3.25	3/
Average	8.34	7.54	6.61	5.88	4.95	4.68	3.47	3/
1969								
August	6.94	6.44	5.44	4.75	4.06	4.00	3.13	3/
September	6.56	6.06	5.19	4.63	4.00	3.50	2.75	4/
October	6.56	6.06	5.13	4.50	3.94	3.50	2.75	4/
November	6.63	6.13	5.19	4.56	4.00	3.63	2.75	4/
December	6.69	6.13	5.19	4.63	4.06	3.63	2.75	4/
January	6.69	6.19	5.19	4.63	4.06	3.63	2.75	4/
February	6.63	6.13	5.13	4.56	4.00	3.50	2.75	4/
March	6.56	6.06	5.00	4.44	3.88	3.38	2.75	4/
April	6.69	6.06	5.06	4.50	3.94	3.38	2.75	4/
May	6.69	6.00	5.00	4.44	3.88	3.25	2.75	4/
June	6.75	6.06	5.00	4.50	3.94	3.38	2.75	4/
July	6.75	6.06	5.00	4.50	3.94	3.38	2.75	4/
Average	6.68	6.12	5.13	4.55	3.98	3.51	2.78	4/

1/ Monthly averages of prices quoted at Atlanta, Memphis, Dallas, and Los Angeles, for linters uncom-
pressed in carlots f.o.b. cottonseed oil mill points, excluding ports. 2/ Grade 2, Staple 2; Grade 3,
etc. 3/ Differentials for variation in cellulose content range from 0.08 to 0.20 cent. 4/ Differentials
for variation in cellulose content range from 0.08 to 0.14 starting September 1969.

Cotton Division, Consumer and Marketing Service.

Table 23.--Cotton: Supply and distribution in the foreign Free World, 1965-69

Item	Year beginning August 1				
	1965	1966	1967	1968	1969
				<u>1/</u>	<u>2/</u>
	Million bales				
Starting carryover <u>3/</u>	10.6	10.6	11.4	12.8	13.4
Production	23.5	22.8	23.9	26.0	25.3
Imports from United States	2.9	4.6	4.1	2.6	2.7
Total supply	37.0	38.0	39.4	41.4	41.4
Consumption	24.9	25.3	25.5	26.5	26.9
Exports to United States, net exports to Communist countries, and destroyed	1.5	1.3	1.1	1.5	1.9
Total disappearance	26.4	26.6	26.6	28.0	28.8
Ending carryover	10.6	11.4	12.8	13.4	12.6

1/ Preliminary. 2/ Estimated. 3/ Includes cotton afloat, in transit, and in free ports.

Foreign Agricultural Service.

Table 24.--Special programs of the U.S. Government for financing cotton exports:
Fiscal years 1967-70 1/

Program	1966/67		1967/68		1968/69		1969/70 <u>2/</u>	
	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity
	Mil. dol.	Mil. bales <u>3/</u>	Mil. dol.	Mil. bales <u>3/</u>	Mil. dol.	Mil. bales <u>3/</u>	Mil. dol.	Mil. bales <u>3/</u>
Public Law 87-195 (AID) <u>4/</u>	<u>6/</u>	<u>5/</u>	<u>6/</u>	<u>5/</u>	---	---	---	---
Export-Import Bank <u>7/</u>	103.7	0.9	67.4	0.6	50.1	0.4	67.4	0.6
P.L. 480 sales Foreign currencies	85.4	.6	120.9	.9	83.9	.7	139.9	1.0
Dollar credit	53.1	.5	12.1	.1	3.4	<u>5/</u>	4.0	<u>5/</u>
Total <u>8/</u>	242.1	2.0	200.3	1.6	137.5	1.1	211.3	1.6
Barter	44.7	.4	41.9	.4	30.1	0.3	77.7	0.7
CCC credit	38.4	.3	47.9	.4	46.3	.4	48.2	.4

1/ Authorized for delivery and shipment. 2/ Preliminary. 3/ Running bales, partly estimated.
4/ Data from disbursements. 5/ Less than 50,000 bales. 6/ Less than \$50,000. 7/ Includes
amounts advanced by participants or disbursed by others at Export-Import Bank risk. 8/ Totals
made from unrounded data.

Estimates compiled from Agricultural Stabilization and Conservation Service and Foreign
Agricultural Service reports and other from Export-Import Bank reports.

Table 25.--Cotton: Average prices 1/ of selected growths and qualities, c.i.f. Liverpool, England, 1967-69, January-February 1969, 1970

Year and month	M 1"		SM 1-1/16"							SM 1-1/8"	
	U.S.	Pakistan 289 F	U.S.	Mexico	Nicaragua	Syria	U.S.S.R. Pervyi 31/32 mm.	Iran	Turkey (Izmir)	U.S.	Uganda BP 52
<u>Equivalent U.S. cents per pound</u>											
1967	25.71	26.02	30.40	30.60	29.19	29.69	31.22	29.90	29.58	33.20	33.80
1968	28.22	28.28	33.07	30.89	29.40	32.29	32.22	32.00	31.14	34.85	37.74
1969	25.53	27.15	28.47	28.45	26.70	2/29.21	29.39	28.52	27.88	29.97	33.55
1969											
May	25.50	27.80	28.56	28.70	27.50	30.25	29.26	n.a.	28.65	30.06	35.20
June	25.44	27.45	28.44	28.34	27.29	29.88	29.25	28.75	28.56	29.94	33.31
July	25.19	27.01	28.13	27.84	27.02	29.20	29.05	28.30	27.84	29.63	32.70
1970											
January	26.50	27.89	28.75	29.65	27.52	2/28.60	31.58	28.50	27.50	30.25	31.55
February	26.62	29.55	28.81	29.56	27.20	2/28.60	31.15	28.62	27.50	30.31	32.06
March	27.00	29.55	29.00	29.80	27.45	2/28.75	32.15	28.75	27.40	30.50	32.25
April	27.31	29.75	29.31	30.02	27.90	2/28.88	31.99	28.75	27.78	30.81	32.25
May	27.40	29.44	29.40	30.14	27.81	2/28.81	31.75	28.75	28.32	30.90	32.62
June	26.95	29.75	29.45	30.21	27.75	2/28.88	31.44	28.75	28.14	31.20	32.75
July	27.06	29.40	29.70	30.49	27.92	2/29.00	31.53	28.80	27.94	31.50	33.60
August											
September											
October											
November											
December											

1/ Generally for prompt shipment.

2/ Including War Risk surcharge.

Foreign Agricultural Service.

Table 26.--Cotton: Average prices 1/ of selected growths and qualities, c.i.f. Bremen, Germany, annual 1967-69, January-February 1969, 1970

Year and month	M Lt. Spot 1-1/32"		SM 1-1/16"							SM 1-1/8"	
	U.S.	Brazil Type 4/5	U.S.	Mexico	Nicaragua	Syria	U.S.S.R. Pervyi 31/32 mm.	Iran	Turkey (Izmir)	U.S.	Uganda BP 52
<u>Equivalent U.S. cents per pound</u>											
1967	24.59	26.47	29.89	29.94	28.76	29.54	30.43	29.48	29.59	31.61	33.27
1968	26.32	27.63	32.10	30.52	28.72	30.87	32.00	30.80	30.31	2/36.71	
1969	24.33	24.64	28.48	27.80	26.14	28.71	28.81	28.64	27.76	31.21	33.46
1969											
May	24.45	25.29	28.58	28.58	26.98	29.51	28.40	30.15	28.75	31.35	34.86
June	24.68	25.09	28.46	28.12	26.86	28.80	28.46	28.45	28.16	31.05	33.72
July	24.46	24.61	27.73	27.26	26.29	28.53	28.22	28.25	27.36	30.95	32.79
1970											
January	25.09	25.48	29.01	28.96	26.99	27.85	2/	29.12	27.72	31.05	31.86
February	25.46	25.44	28.99	29.22	26.96	28.51	2/	28.98	27.55	31.14	31.92
March	25.71	26.22	29.02	29.60	27.61	28.90	2/	28.48	27.67	31.05	32.12
April	25.95	27.44	29.30	29.70	27.65	3/28.15	4/31.07	28.80	28.31	31.40	32.20
May	26.19	27.62	29.45	29.72	27.76	28.75	31.15	28.99	27.94	31.40	31.82
June	26.38	27.00	29.26	30.05	27.64	28.90	31.15	28.87	28.10	30.95	31.90
July	26.38	2/	29.30	30.12	27.98	28.90	31.15	2/	28.26	30.90	32.70
August											
September											
October											
November											
December											

1/ Generally for prompt shipment.

2/ Not quoted. 3/ One quotation. 4/ Average of 2 quotations.

Foreign Agricultural Service.

Table 27.--Foreign spot prices per pound including export taxes 1/ and U.S. average spot export prices, May, June, and July 1969 2/

Market	Foreign		United States	
	Quality	Price per pound <u>3/</u>	Price per pound <u>4/</u>	Quality <u>5/</u>
<u>Cents</u>				
May 1970				
Bombay, India	: Digvijay, fine 7/8"	35.68	20.90	SIM 15/16"
Karachi, Pakistan	: 289 F Sind Fine S G	25.98	21.84	SIM 1"
Izmir, Turkey	: Standard II	*27.72	26.28	M 1-1/16"
Sao Paulo, Brazil	: Type 5	22.53	21.44	SIM 31/32"
Torreón-Coahuila, Mexico	: M 1-1/16"	6/25.69	26.28	M 1-1/16"
Lima, Peru	: Tanguis type 5	26.61	26.93	SIM 1-3/16"
Alexandria, UAR	: Giza 66 good	33.25	8/27.85	M 1-1/8"
June 1970				
Bombay, India	: Digvijay, fine 7/8"	36.28	21.20	SIM 15/16"
Karachi, Pakistan	: 289 F Sind Fine S G	27.12	22.08	SIM 1"
Izmir, Turkey	: Standard II	*27.72	26.45	M 1-1/16"
Sao Paulo, Brazil	: Type 5	23.56	21.74	SIM 31/32"
Torreón-Coahuila, Mexico	: M 1-1/16"	6/26.16	26.45	M 1-1/16"
Lima, Peru	: Tanguis type 5	27.22	7/26.93	SIM 1-3/16"
Alexandria, UAR	: Giza 66 good	33.25	8/28.02	M 1-1/8"
July 1970				
Bombay, India	: Digvijay, fine 7/8"	37.20	21.38	SIM 15/16"
Karachi, Pakistan	: 289 F Sind Fine S G	28.69	21.23	SIM 1"
Izmir, Turkey	: Standard II	N.A.	26.66	M 1-1/16"
Sao Paulo, Brazil	: Type 5	24.73	21.93	SIM 31/32"
Sanaloea Sonora <u>9/</u> , Mexico	: M 1-1/16"	6/26.21	26.66	M 1-1/16"
Lima, Peru	: Tanguis type 5	27.34	7/26.93	SIM 1-3/16"
Alexandria, UAR	: Giza 66 good	33.25	8/28.18	M 1-1/8"

1/ Includes export taxes where applicable. 2/ Quotations on net weight basis.
 3/ Averages of prices collected once each week. 4/ Averages spot market gross weight price divided by 0.96 to convert price to a net weight basis. 5/ Quality of U.S. cotton generally considered to be most nearly comparable to the foreign cotton.
 6/ Torreón-Coahuila District cotton delivered uncompressed ex-warehouse Brownville, Texas, Mexican export taxes paid. Net weight price-actual price divided by 0.96.
 7/ Based on El Paso market. 8/ Based on average of Fresno, Greenwood, Memphis and El Paso markets. 9/ Temporary. *Less than 4 quotations.

Table 28.—Cotton equivalent $\frac{1}{2}$: Production of man-made fibers, 1960 to date

	Rayon and acetate						Non-cellulosic fibers (excl. glass)						Textile glass fiber		Grand total	
	Staple fiber			High tenacity			Total			Yarn other than tires			Tires			Total
	Actual	Cotton equiv- alent	Actual	Cotton equiv- alent	Actual	Cotton equiv- alent	Actual	Cotton equiv- alent	Actual	Actual	Cotton equiv- alent	Actual	Actual	Cotton equiv- alent	Actual	Cotton equiv- alent
1960	375.2	566.6	374.0	411.4	279.3	502.7	1,028.5	1,480.7	289.6	503.9	147.8	403.5	239.8	328.5	677.2	1,235.9
1961	390.7	590.0	453.5	498.8	251.0	451.8	1,095.2	1,540.6	338.0	588.1	159.2	434.6	253.7	347.3	750.9	1,370.3
1962	454.1	685.7	546.0	600.6	272.0	489.6	1,272.1	1,775.9	427.6	744.0	199.8	545.5	345.5	473.3	972.9	1,762.8
1963	463.7	700.2	639.1	703.0	246.0	442.8	1,348.8	1,846.0	497.6	865.8	215.2	587.5	345.5	473.3	972.9	1,762.8
1964	519.3	784.1	719.7	792.7	238.2	424.8	1,431.8	1,968.6	590.8	1,041.9	248.8	679.2	559.1	766.0	1,105.0	2,060.5
1965	560.4	846.2	702.0	772.2	264.6	476.3	1,527.0	2,094.7	724.1	1,259.9	273.6	746.9	779.2	1,067.5	1,775.9	2,871.3
1966	564.0	851.6	719.2	791.1	235.5	424.4	1,519.0	2,071.1	831.1	1,449.6	331.6	905.3	904.0	1,238.5	2,068.7	3,093.1
1967	573.5	866.0	753.4	818.7	161.2	290.2	1,388.1	1,874.9	874.0	1,520.8	341.4	932.0	1,222.8	1,538.2	2,338.2	3,393.1
1968	602.8	910.2	789.1	868.0	202.4	364.3	1,594.3	2,142.5	1,248.3	2,172.0	413.8	1,129.7	1,550.4	2,124.0	3,212.5	5,125.7
1969	605.8	914.8	801.8	882.0	168.6	303.5	1,576.2	2,100.3	1,290.2	2,244.9	476.7	1,301.4	1,718.7	2,334.6	3,485.8	5,900.9
United States																
1960	375.2	566.6	374.0	411.4	279.3	502.7	1,028.5	1,480.7	289.6	503.9	147.8	403.5	239.8	328.5	677.2	1,235.9
1961	390.7	590.0	453.5	498.8	251.0	451.8	1,095.2	1,540.6	338.0	588.1	159.2	434.6	253.7	347.3	750.9	1,370.3
1962	454.1	685.7	546.0	600.6	272.0	489.6	1,272.1	1,775.9	427.6	744.0	199.8	545.5	345.5	473.3	972.9	1,762.8
1963	463.7	700.2	639.1	703.0	246.0	442.8	1,348.8	1,846.0	497.6	865.8	215.2	587.5	345.5	473.3	972.9	1,762.8
1964	519.3	784.1	719.7	792.7	238.2	424.8	1,431.8	1,968.6	590.8	1,041.9	248.8	679.2	559.1	766.0	1,105.0	2,060.5
1965	560.4	846.2	702.0	772.2	264.6	476.3	1,527.0	2,094.7	724.1	1,259.9	273.6	746.9	779.2	1,067.5	1,775.9	2,871.3
1966	564.0	851.6	719.2	791.1	235.5	424.4	1,519.0	2,071.1	831.1	1,449.6	331.6	905.3	904.0	1,238.5	2,068.7	3,093.1
1967	573.5	866.0	753.4	818.7	161.2	290.2	1,388.1	1,874.9	874.0	1,520.8	341.4	932.0	1,222.8	1,538.2	2,338.2	3,393.1
1968	602.8	910.2	789.1	868.0	202.4	364.3	1,594.3	2,142.5	1,248.3	2,172.0	413.8	1,129.7	1,550.4	2,124.0	3,212.5	5,125.7
1969	605.8	914.8	801.8	882.0	168.6	303.5	1,576.2	2,100.3	1,290.2	2,244.9	476.7	1,301.4	1,718.7	2,334.6	3,485.8	5,900.9
Foreign countries																
1960	1,235.3	1,865.3	2,881.6	3,169.8	603.7	1,086.7	4,720.6	6,121.8	481.3	837.5	3/	—	389.6	533.8	870.9	1,371.3
1961	1,267.0	1,914.6	2,975.0	3,272.5	592.0	1,065.6	4,855.0	6,252.7	507.6	857.8	3/	—	482.1	620.5	1,079.7	1,700.2
1962	1,297.7	1,947.4	3,120.1	3,432.1	625.0	1,125.0	5,042.7	6,502.5	780.3	1,357.7	3/	—	620.8	861.6	1,282.0	2,019.3
1963	1,362.8	2,077.8	3,390.3	3,729.3	642.0	1,155.6	5,395.1	6,942.7	1,094.2	1,748.5	3/	—	780.7	1,039.6	1,789.6	2,613.1
1964	1,467.6	2,213.1	3,664.2	4,030.6	693.8	1,230.8	5,833.6	7,574.5	1,308.2	2,276.8	3/	—	1,021.1	1,386.6	2,340.6	3,663.4
1965	1,557.5	2,303.0	3,698.4	4,091.2	706.4	1,313.5	6,183.4	7,935.7	1,381.7	2,582.9	3/	—	1,259.6	1,725.7	2,744.0	4,308.6
1966	1,576.5	2,339.3	3,613.7	3,975.1	781.2	1,406.2	6,851.4	7,800.6	1,482.3	2,467.3	3/	—	1,381.9	2,157.2	3,402.2	5,334.5
1967	1,597.5	2,360.3	3,681.2	4,010.3	741.8	1,335.2	6,520.4	7,645.0	1,409.2	2,739.6	3/	—	1,650.6	2,153.3	3,593.8	5,774.9
1968	1,563.5	2,360.2	3,688.8	4,255.7	780.6	1,369.1	6,182.9	7,365.7	1,694.3	3,068.1	3/	—	2,429.6	3,388.6	5,213.9	8,026.7
1969	1,601.7	2,418.6	3,897.5	4,287.2	781.4	1,370.5	6,260.6	8,076.3	3,423.3	5,668.5	3/	—	2,574.6	4,075.2	6,197.9	9,883.8
World																
1960	1,610.5	2,431.9	3,255.6	3,581.2	883.0	1,589.4	5,749.1	7,602.5	770.9	1,314.4	147.8	403.5	629.4	862.3	1,948.1	2,607.2
1961	1,658.7	2,504.6	3,468.1	3,771.3	843.0	1,517.4	5,930.2	7,793.3	935.6	1,627.9	159.2	434.6	735.8	1,008.0	2,183.0	2,830.6
1962	1,751.1	2,645.1	3,666.1	4,032.7	897.0	1,634.6	6,334.8	8,292.4	1,207.2	2,101.7	199.8	545.5	794.3	1,334.8	2,382.0	3,080.0
1963	1,826.5	2,750.0	4,031.5	4,436.3	880.0	1,598.4	6,743.9	8,768.7	1,502.5	2,611.4	215.2	587.5	1,223.9	1,676.7	2,941.6	4,870.6
1964	1,984.9	2,997.2	4,318.5	4,750.4	942.0	1,695.6	7,245.4	9,443.2	1,907.3	3,318.7	248.8	679.2	1,571.2	2,152.5	3,727.3	6,150.4
1965	2,020.5	3,047.2	4,330.4	4,763.4	1,011.0	1,819.8	7,359.4	9,630.4	2,208.5	3,842.8	273.6	746.9	2,038.8	2,793.2	4,320.9	7,382.9
1966	2,020.5	3,050.9	4,332.9	4,766.2	1,017.0	1,830.6	7,370.4	9,647.7	2,263.4	4,016.9	331.6	905.3	2,485.9	3,405.7	5,170.9	8,227.9
1967	2,070.5	3,126.5	4,334.6	4,768.1	903.0	1,625.4	7,308.1	9,520.0	3,023.2	5,260.4	341.4	932.0	2,973.4	4,073.6	6,338.0	10,266.0
1968	2,166.3	3,271.1	4,657.9	5,123.7	963.0	1,733.4	7,787.2	10,128.2	3,942.6	6,860.1	413.8	1,129.7	3,980.0	5,429.6	8,336.4	13,142.4
1969	2,207.5	3,333.3	4,699.3	5,169.2	930.0	1,674.0	7,836.8	10,176.5	4,513.5	7,853.5	476.7	1,301.4	4,693.3	6,429.8	9,683.5	15,584.7

$\frac{1}{2}$ The equivalent net weight pounds of raw cotton for each pound of man-made fibers are: (a) Regular and intermediate tenacity rayon—1.51; (b) Rayon and acetate staple fiber—1.10; (c) High tenacity rayon—1.80; (d) Non-cellulosic man-made fiber for uses other than tires—1.7; (e) Non-cellulosic man-made fibers used in tires—2.73; (f) Non-cellulosic man-made staple fiber—1.37; (g) Fiber glass—1.70. $\frac{2}{2}$ 480 pound net weight bales. $\frac{3}{3}$ Data for fiber used in tires is not available for foreign countries.

Based on production data from the Textile Organon, a publication of the Textile Economics Bureau, Incorporated.

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